



Tender No: EDFC/PRYJ/E/EN/RR/2024/01

For

Construction of Crew Running Room at DDUN Station in connection with DFCCIL work, under jurisdiction of DFCCIL/CGM/ PRYJ(E)

E-Tender Document

Employer:

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

Under

MINISTRY OF RAILWAYS

Chief General Manager, Prayagraj (East),

OCC BUILDING, SUBEDARGANJ, PRAYAGRAJ, UTTAR PRADESH-211012, India

Phone No. 0532-2287613

CORPORATE OFFICE

DFCCIL, 5TH Floor, Supreme Court Metro Station Building,

New Delhi-110001

Contents	
NOTICE INVITING E-TENDER	10-13
GENERAL DATA SHEET	14-14
PREAMBLE & GENERAL INSTRUCTIONS TO TENDERERS	15-33
Preamble	34-37
PART I	38-40
Preliminary	
Recitals	
1 Definitions and Interpretation	
1.1 Definitions	
1.2 Interpretation	
1.3 Measurements and arithmetic conventions	
1.4 Priority of agreements and errors/discrepancies	
1.5 Joint and several liability	
PART II	46-60
Scope of the Project	
2 Scope of the Project	
2.1 Scope of the Project	
3 Obligations of the Contractor	
3.1 Obligations of the Contractor	
3.2 Obligations relating to sub-contracts and any other agreements	
3.3 Employment of foreign nationals	
3.4 Contractor's personnel	
3.5 Advertisement on Railway Project	
3.6 Contractor's care of the Works	
3.7 Electricity, water and other services	
3.8 Unforeseeable difficulties	
3.9 Training of Authority's personnel	
3.10 Safety at work site	
4 Obligations of the Authority	
4.1 Obligations of the Authority	
4.2 Maintenance and operation of the existing facilities	
4.3 Environmental and Forest Clearances	
4.4 Machinery and equipment	
4.5 Electricity transmission lines	
4.6 Disconnection for modification of existing signaling and telecommunication works	



4.7 Provision of Power Blocks and Traffic Blocks

5 Representations and Warranties

5.1 Representations and warranties of the Contractor

5.2 Representations and warranties of the Authority

5.3 Disclosure

6 Disclaimer

6.1 Disclaimer

PART III

Construction

7 Performance Security

7.1 Performance Security

7.2 Extension of Performance Security

7.3 Appropriation of Performance Security

7.4 Release of Performance Security

7.5 Retention Money

8 Right of Way

8.1 The Site

8.2 Handing over of the Project Site

8.3 Damages for delay in handing over the Site

8.4 Site to be free from Encumbrances

8.5 Protection of Site from encroachments

8.6 Special/temporary Right of Way

8.7 Access to the Authority and the Authority's Engineer

8.8 Geological and archaeological finds

9 Utilities and Trees

9.1 Existing utilities and roads

9.2 Shifting of obstructing utilities

9.3 New utilities

9.4 Felling of trees

10 Design and Construction of the Railway Project

10.1 Obligations prior to commencement of Works

10.2 Design and Drawings

10.3 Construction of the Railway Project

10.4 Extension of time for completion

10.5 Incomplete Works

10.6 Equipment Specific Maintenance Manual

11 Quality Assurance, Monitoring and Supervision

11.1 Quality of Materials and workmanship

11.2 Quality control system

11.3 Methodology

11.4 Inspection and technical audit by the Authority

11.5 External technical audit



- 11.6 Inspection of construction records
- 11.7 Monthly progress reports
- 11.8 Inspection
- 11.9 Samples
- 11.10 Tests
- 11.11 Examination of work before covering up
- 11.12 Rejection
- 11.13 Remedial work
- 11.14 Delays during construction
- 11.15 Quality control records and Documents
- 11.16 Video recording
- 11.17 Suspension of unsafe Construction Works

12 Completion Certificate

- 12.1 Tests on completion
- 12.2 Provisional Certificate
- 12.3 Completion of Part-2 Punch List items
- 12.4 Completion Certificate
- 12.5 Rescheduling of Tests
- 12.6 Delayed authorization

13 Change of Scope

- 13.1 Change of Scope
- 13.2 Procedure for Change of Scope
- 13.3 Payment for Change of Scope
- 13.4 Restrictions on Change of Scope
- 13.5 Power of the Authority to undertake works

14 Traffic Regulation

- 14.1 Traffic regulation by the Contractor

15 Defects Liability

- 15.1 Defects Liability Period
- 15.2 Remedy and rectification of Defects and deficiencies
- 15.3 Cost of remedying Defects
- 15.4 Contractor's failure to rectify Defects
- 15.5 Contractor to search cause
- 15.6 Extension of Defects Liability Period

16 Authority's Engineer

- 16.1 Appointment of the Authority's Engineer
- 16.2 Duties and functions of the Authority's Engineer
- 16.3 Authorized signatories
- 16.4 Instructions of the Authority's Engineer
- 16.5 Determination by the Authority's Engineer
- 16.6 Remuneration of the Authority's Engineer



- 16.7 Replacement of the Authority's Engineer
- 16.8 Interim arrangement

PART IV

Financial Covenants

17 Payments

- 17.1 Contract Price
- 17.2 Advance Payment
- 17.3 Procedure for estimating the payment for the Works
- 17.4 Stage Payment Statement for Works
- 17.5 Stage Payment for Works
- 17.6 Payment of Damages
- 17.7 Time of payment and interest
- 17.8 Price adjustment for the Works
- 17.9 Restrictions on price adjustment
- 17.10 Final Payment Statement
- 17.11 Discharge
- 17.12 Final Payment Certificate
- 17.13 Change in law
- 17.14 Correction of Interim Payment Certificates
- 17.15 Authority's claims
- 17.16 Bonus for early completion

18 Insurance

- 18.1 Insurance for Works
- 18.2 Notices to the Authority
- 18.3 Evidence of Insurance Cover
- 18.4 Remedy for failure to insure
- 18.5 Waiver of subrogation
- 18.6 Contractor's waiver
- 18.7 Cross liabilities
- 18.8 Accident or injury to workmen
- 18.9 Insurance against accident to workmen
- 18.10 Application of insurance proceeds
- 18.11 Compliance with policy conditions

Part V

Force Majeure and Termination

19 Force Majeure

- 19.1 Force Majeure
- 19.2 Non-Political Event
- 19.3 Indirect Political Event
- 19.4 Political Event
- 19.5 Duty to report Force Majeure Event
- 19.6 Effect of Force Majeure Event on the Agreement



- 19.7 Termination Notice for Force Majeure Event
- 19.8 Termination Payment for Force Majeure Event
- 19.9 Dispute resolution
- 19.10 Excuse from performance of obligations

20 Suspension of Contractor's Rights

- 20.1 Suspension upon Contractor Default
- 20.2 Authority to act on behalf of Contractor
- 20.3 Revocation of Suspension
- 20.4 Termination

21 Termination

- 21.1 Termination for Contractor Default
- 21.2 Termination for Authority Default
- 21.3 Right of Authority to Determine the Contract
- 21.4 Requirements after Termination
- 21.5 Valuation of Unpaid Works
- 21.6 Termination Payment
- 21.7 Other rights and obligations of the Parties
- 21.8 Survival of rights

PART VI

Other Provisions

22 Assignment and Charges

- 22.1 Restrictions on assignment and charges
- 22.2 Hypothecation of Materials or Plant

23 Liability and Indemnity

- 23.1 General indemnity
- 23.2 Indemnity by the Contractor
- 23.3 Notice and contest of claims
- 23.4 Defense of claims
- 23.5 No consequential claims
- 23.6 Survival on Termination

24 Dispute Resolution

- 24.1 Conciliation of Disputes
- 24.2 Dispute Adjudication Board
- 24.3 Standing Arbitral Tribunal

25 Miscellaneous



- 25.1 Governing law and jurisdiction
- 25.2 Waiver of immunity
- 25.3 Delayed payments
- 25.4 Waiver
- 25.5 Liability for review of Documents and Drawings
- 25.6 Exclusion of implied warranties etc.
- 25.7 Survival
- 25.8 Entire Agreement
- 25.9 Severability
- 25.10 No partnership
- 25.11 Third Parties
- 25.12 Successors and assigns
- 25.13 Notices
- 25.14 Language
- 25.15 Counterparts
- 25.16 Confidentiality
- 25.17 Copyright and Intellectual Property rights
- 25.18 Limitation of Liability

26 Definitions

- 26.1 Definitions

Schedules 151

A Site of the Project 152-158

- 1 The Site
- Annex-I: Site
- Annex-II: Dates for providing Right of Way
- Annex-III: Plan and Profile
- Annex-IV: Environmental and Forest Clearances

B Development of the Railway Project 159-208

- Annex-I: Description of the Railway Project
- Annexure-II Safety Precautions During Execution of Work

C Project Facilities 209-216

- 1 Project Facilities
- 2 Description of Project Facilities

D Specifications and Standards 217-273

- 1 Construction
- 2 Design Standards
- 3 Latest Version
- 4 Terms used in Manuals
- 5 Absence of specific provisions
- 6 Alternative Specifications and Standards

- Annex-I: Specifications and Standards for Construction
- Annex-II: Time Schedule for review of drawings by the Authority



E	Applicable Permits	274-279
1	Applicable Permits	
F	Form of Bank Guarantee	280-282
	Annex-I: Form of Guarantee for Performance Security	
	Annex-II: Form of Guarantee for Withdrawal of Retention Money	
	Annex-III: Form of Guarantee for Advance payment	
G	Contract Price Weightages	283-289
H	Drawings	290
1	Drawings	
2	Additional drawings	
	Annex-I: List of Drawings	
1.	Project Completion Schedule	291-292
1.1.	Project Completion Schedule	
1.2.	Project Milestone-I	
1.3.	Project Milestone-II	
1.4.	Project Milestone-III	
1.5.	Scheduled Completion Date	
1.6.	Extension of time	
2.	Tests on Completion	293-295
1	Schedule for Tests	
2	Tests	
3	Agency for conducting Tests	
4.	Completion Certificate	
3.	Provisional Certificate/ Completion Certificate	296
1.	Provisional Certificate	
2.	Completion Certificate	
4.	Selection of Authority's Engineer	297-302
1	Selection of Authority's Engineer	
2	Terms of Reference	
	Annex-I: Duties & Responsibilities of Authority's Engineer	
M	Forms of Payment Statements	303
1	Stage Payment Statement for Works	
2	Contractor's Claim for Damages	
N	Insurance	304-305
1	Insurance during Construction Period	



Tender No: EDFC/PRYJ/E/EN/RR/2024/01

2	Insurance for Contractor's Defects Liability	
3	Insurance against injury to persons and damage to property	
4	Insurance to be in joint names	
O	Provision of Traffic Blocks and Power Blocks	306
P	Machinery and equipment	307
Q	Tender Forms	308-343
	End Of Tender Documents	344



Tender No: EDFC/PRYJ/E/EN/RR/2024/01

**NOTICE INVITING E-TENDER
DATE:XX.02.2024**

Tender No: EDFC/PRYJ/E/EN/RR/2024/01

Dear Sirs,

Construction of Crew Running Room at DDUN Station in connection with DFCCIL work, under jurisdiction of DFCCIL/CGM/PRYJ(E).

Chief General Manager/PRYJ (E), DFCCIL Office Complex, OCC BUILDING, SUBEDARGANJ, PRAYAGRAJ, UTTAR PRADESH-211012, India, invites Single stage Two Packet tender through E-tendering on prescribed forms from firms / Companies / Joint Ventures having requisite experience and financial capacity for execution of the following work:

Tender No.	EDFC/PRYJ/E/EN/RR/2024/01
Name of Work	Construction of Crew Running Room at DDUN Station in connection with DFCCIL work, under jurisdiction of DFCCIL/CGM/ PRYJ(E)
Employer	Chief General Manager/PRYJ (E), DFCCIL Office Complex, OCC BUILDING, SUBEDARGANJ, PRAYAGRAJ, UTTAR PRADESH-211012, India, Phone No. 0532-2287613
Type of Tender	Open-E-Tender
Type of Contract	Open E-Tender (EPC Single Stage Two Packet System)
Tender Value	Rs. 31,52,48,573/- Including GST
Period	09 Months
Earnest Money Deposited (EMD)	Rs. 47,28,800/-
Cost of Tender Document	Rs. 11,800/- (including GST)
Security Deposit	5% of contract value as per Preamble and General Instruction to Tenderers.
Tender processing fee	As per term & conditions of e-tendering website.



Tender No: EDFC/PRYJ/E/EN/RR/2024/01

E-tendering website	www.ireps.gov.in For any help in connection with E-tendering & matter relating to Digital signature, please contact 'Help Desk available on left Navigation Block of home page of the site https://www.ireps.gov.in and phone No. 011-23761525
Date of uploading of NIT & Bid documents (online publishing date)	04.03.2024
Pre Bid Conference	11.30 Hrs On dated 14.03.2024 at Chief General Manager/PRYJ (E), DFCCIL Office Complex, OCC BUILDING, SUBEDARGANJ, PRAYAGRAJ, UTTAR PRADESH-211012, India Phone No. 0532-2287613. Preamble and General Instruction to Tenderers.
Date of document download/Sale (Online)	As per IREPS
Issue of Corrigendum, if any	As per IREPS
Date & Time of Submission of Tender	As per IREPS
Last date of submission of EMD	Dated 05.04.2024 at 15.00 Hrs.
Date & Time of Opening of Tender	05.04.2024 at 15:30hrs
Validity of Offer	120 days

- 1.1.1 Eligibility shall be assessed on applicants, fulfilling the technical capability and competence as well as for financial and organizational resources as specified in clause no. 1.3.13 (i) A & B of Preamble and General Instruction to tenders.
- 1.1.2 Tender document can be viewed & downloaded from DFCCIL's website www.dfccil.com, www.ireps.gov.in & Central Procurement portal <https://eprocure.gov.in>. Tenderers are advised not to make any corrections, additions or alterations in the downloaded tender documents. In case, any corrections additions or alterations in the downloaded tender documents are made, such tender shall be summarily rejected.
- 1.1.3 DFCCIL may issue addendum(s) / corrigendum(s) to the tender documents. In such cases the addendum(s) / corrigendum(s) shall be issued and placed on www.ireps.gov.in only at least three days in advance of date of submission of tender. The tenderers who have downloaded the tender documents from the website before issue of addendum(s)/ corrigendum(s) must visit the web site 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 uploaded along with the submission of tender.



Tender No: EDFC/PRYJ/E/EN/RR/2024/01

- 1.1.4 To participate in the E-Bid submission, it is mandatory for the bidders to have user registration on IREPS Portal and valid Class III DSC as required by IREPS. Helpdesk for E-Tendering,
- A. For any help in connection with E-tendering, please contact 'Help Desk' available on left Navigation Block of home page of the site <https://www.ireps.gov.in>.
- B. User manual for Contractors is available under Learning Centre tab on the left Navigation block of the home page of the site <https://www.ireps.gov.in>. The procedure of using Help Desk is also described in this user Manual. The bidders may contact at 011-23761525 in case of any doubt.

- 1.1.5 The tender documents shall be submitted in online mode only through website <http://www.ireps.gov.in> in two e-Packets only viz Packet - A containing TECHNICAL BID and Packet- B containing FINANACIAL BID (Schedule-G). Detailed credential as per the requirement of eligibility criteria and all tender papers except Bill of Quantities are to be submitted in technical bid.

Summary of Prices (Schedule-G) with %age above or below or at par on the amount of Schedules duly filled in along with Schedule of Prices (Schedule-G) are to be submit online mode only in "Financial Bid".

Tenderer shall submit the EMD as detailed in Para 1.3.8 of Preamble & General Instructions to Tenderers (Part-I, Chapter-III) in original in the office of Employer, (Address- Chief General Manager/PRYJ (E), DFCCIL Office Complex, OCC BUILDING, SUBEDARGANJ, PRAYAGRAJ, UTTAR PRADESH-211012, India on or before the scheduled date and time of submission of tender.

Financial Bid (as specified in "Financial Bid" in Tender Document) duly filled in is to be uploaded in "Financial packet". The rates must be filled after downloading the financial bid document in the prescribed format from the website <http://www.ireps.gov.in>. The financial bid should be downloaded & then filled up, saved and uploaded on the E-tendering website using digital signature for signing the document.

- 1.1.6 Tenders shall be opened at the address given below electronically on dated xx.03.2024 at 15:30 hours. Address of Office of the Chief General Manager/PRYJ (E), DFCCIL Office Complex, OCC BUILDING, SUBEDARGANJ, PRAYAGRAJ, UTTAR PRADESH-211012, India, (for opening of tenders):- Chief General Manager/PRYJ (E), DFCCIL Office Complex, OCC BUILDING, SUBEDARGANJ, PRAYAGRAJ, UTTAR PRADESH-211012, India. All the Bids received shall be opened on the date and time mentioned above in the tender notice. Bid of the bidders shall be opened through process of e-tendering.
- 1.1.7 Tender shall be submitted as per "General Instruction to Tenderers" forming as part of the complete tender documents.
- 1.1.8 Any tender received without Bid Security and cost of tender documents from such bidders as per term & conditions (in case of downloaded tenders) in the form as specified in the tender documents shall not be considered and shall be summarily rejected.
- 1.1.9 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.



Tender No: EDFC/PRYJ/E/EN/RR/2024/01

- 1.1.10 Tenderers may note that they are liable to be disqualified at any time during tendering process in case any of the information furnished by them is not found to be true. The decision of DFCCIL in this regards shall be final and binding.
- 1.1.11 Information as required as per various Forms to tender document should be submitted by the tenderers without fail strictly as per formats.
- 1.1.12 The validity of offer shall be 120 days from the date of opening of the tender.
- 1.1.13 Transfer of the tender document purchased by intending tenderer to another tenderer is not admissible. Tenderer can submit tenders only on the documents purchased/downloaded from DFCCIL website: www.dfccil.gov.in / www.ireps.gov.in by them.
- 1.1.14 Tenderers must read all instructions regarding e-tendering process as mentions in PREAMBLE & GENERALIN STRUCTION TO TENDERERS.
- 1.1.15 Tenderers are advised to regular visit the E-Tender Portal (<https://www.ireps.gov.in>) for information regarding tender. Corrigendum, addendum (if any) etc.

Chief General Manager/PRYJ(E) For & on behalf of DFCCIL



Tender No: EDFC/PRYJ/E/EN/RR/2024/01

GENERAL DATA SHEET

TENDER NOTICE NO	EDFC/PRYJ/E/EN/RR/2024/01
Name of the work	Construction of Crew Running Room at DDUN Station in connection with DFCCIL work, under jurisdiction of DFCCIL/CGM/ PRYJ(E)
(a) Tender Value	Rs. 31,52,48,573/- Including GST
(b) Period	09 Months
(c) Earnest Money Deposited (EMD)	Rs. 47,28,800/-
(d) Cost of Tender Document	Rs. 11,800/- (including GST)
(e) Date and Time of Issue of Tender	As per IREPS
(f) Pre Bid Conference	11.30 Hrs On dated 14.03.2024 at Chief General Manager/PRYJ (E), DFCCIL Office Complex, OCC BUILDING, SUBEDARGANJ, PRAYAGRAJ, UTTAR PRADESH-211012, India Phone No. 0532-2287613. Preamble and General Instruction to Tenderers.
(g) Last date and Time of submission of Tender	As per IREPS
(h) Date and Time of Opening of Tender	05.04.2024 at 15:30hrs
(i) Validity of offer	120 days
(j) Retention Money / Security Deposit	5% of Contract Value
(k) Performance Bank Guarantee	Performance Guarantee (PG) have to be submitted within 21 (Twenty One) days from the date of issue of Letter Of Acceptance (LOA), amounting to 5% of the contract value in the form as given in Preamble and General Instruction to Tenderers.



PREAMBLE & GENERAL INSTRUCTIONS TO TENDERERS

1.3.1 Introduction

(i) General

Dedicated Freight Corridor Corporation of India Ltd. (DFCCIL), a public sector undertaking has been set up under the Indian Companies Act, 1956 for implementation of Dedicated Freight Corridor Project. Government of India is the sole share holder of the DFCCIL.

Ministry of Railways (MOR), Government of India has planned to construct Dedicated Freight Corridor (DFC) covering about 3338 route Kilometres on Eastern and Western Corridors. The coverage of Eastern Corridor is from Ludhiana to Dankuni and Western Corridors planned from Jawaharlal Nehru Port, Mumbai to Rewari/Tughlakabad/Dadri near Delhi. There will be a link age between two corridors at Dadri.

(ii) Eastern Dedicated Freight Corridor

Eastern DFC Route will be approximately 1839 Km long from Dankuni to Ludhiana via Dankuni–Asansole–Dhanbad–Gaya–Sonmugar–Mughalsarai–Allahabad - Kanpur - Tundla- Aligarh - Khurja - Bulandshahr – Meerut –Saharanpur–Ambala-Ludhiana. Proposed alignment of DFC has been generally kept parallel to existing Indian Railway line except provision of detours at some stations where the existing yards/ cities are congested.

Work of Construction of Crew Running Room at New Pt. Deen Dayal Junciton, under jurisdiction of CGM/ PRYJ(E).

(iii) General instructions (for online tendering system)

Submission of Online Bids is mandatory for this Notice Inviting Tender. E-Tendering is a new methodology for conducting Public Procurement in a transparent and secured manner. Suppliers/Vendors will be the biggest beneficiaries of this new system of procurement. An e-tendering portal of Dedicated Freight Corridor Corporation of India (DFCCIL) introduced for the process of e-tendering which can be accessed on www.ireps.gov.in. (Refer in the BID DOCUMENTS).

Words in capital and not defined in this document shall have the same meaning as in “BID DOCUMENTS”. Benefits to Suppliers/service providers are outlined on the Home-page of the portal.

A) ACCESSING/PURCHASING OF BID DOCUMENTS:

It is mandatory for all the Bidders to have class-III digital signature certificate (in the name of person who will sign the Bid) from any of the licensed certifying agency (“CA”) [Bidders can see the list of licensed CAs from the link www.cca.gov.in] to participate in e-tendering of DFCCIL.

The BID DOCUMENTS can be viewed/downloaded from the website www.dfccil.com, www.ireps.gov.in & Central Procurement portal <https://eprocure.gov.in> free of cost till one day



prior to last date of submission of the Application upto 15.00 hrs.

Following may be noted -

- i) Bids can be submitted only during the validity of registration with the ireps.gov.in.
- ii) The amendments to the BID DOCUMENTS, if any, will be posted on the website www.dfccil.com, www.ireps.gov.in & Central Procurement portal https://eprocure.gov.in.
- iii) Registration with the ireps.gov.in should be valid at least upto the date of submission of bid.

Help desk for E-Tendering

- A. For any help in connection with E-tendering, please contact 'Help Desk' available on left Navigation Block of home page of the site https://www.ireps.gov.in.
- B. User manual for Contractors is available under Learning Centre tab on the left Navigation block of the home page of the site https://www.ireps.gov.in. The procedure of using Help Desk is also described in this user Manual. The bidders may contact at 011-23761525 in case of any doubt.

B) PREPARATION & SUBMISSION OF APPLICATIONS:

Detailed BID DOCUMENTS may be downloaded from www.ireps.gov.in and the Bid may be submitted online following the instructions as per user manual on www.ireps.gov.in portal. A Vendor manual containing the detailed guidelines for e-tendering system is available on ireps.gov.in.

Only Electronic Form (to be uploaded on the IREPS)

Submission of Financial & Technical bid in prescribed Format in **ONLINE MODE ONLY**. No other mode of submission is accepted.

C) Document should be uploaded on the IREPS side (Online mode only)

- i. Copy of PAN Card.
- ii. Copy of GST Registration Certificate. In case the tenderer is yet to get GST registration Number, Upload the proof for applying GST Registration.
- iii. Tenderers are required to upload affidavit as per Form No. 22 as stipulated in clause 1.3.13 (iii) regarding documents in support of his/their claim to fulfill the eligibility criteria in the tender document.
- iv. An undertaking from the person having PoA referred in sub clause (a) above that they agree and abide by the bid documents uploaded by DFCCIL and amendments uploaded, if any.
- v. SUBMISSION OF FINANCIAL ELIGIBILITY CRITERIA CREDENTIALS In prescribed format mentioned in BID DOCUMENTS.
- vi. SUBMISSION OF TECHNICAL ELIGIBILITY CRITERIA CREDENTIALS in prescribed format mentioned in BID DOCUMENTS.
- vii. Copy of Memorandum and Articles of Association, if the Applicant is a body corporate, and if a partnership then a copy of its partnership deed;



- viii. Contractor shall submit cost of BID DOCUMENTS of Rs 11800/- (Rupees Eleven thousand eight hundred only, as mentioned in clause 1.3.4.3 of preamble & general instructions to tenderer) through net banking or payment gateway in DFCCIL Bank Account as mentioned in IREPS Portal (Online Mode only) On or before schedule date & time of submission of bid. The proof of submission Tender documents cost should be uploaded/attached alongwith Bid/offer document.
- ix. The Bid security / Earnest Money should be deposited by the tenderer in the DFCCIL Bank or in any form As mentioned clause no. 1.3.8 of preamble & general instructions to tenderer, through Net Banking or Payment Gateway (Online Mode only) or before Schedule date & Time of submission of Bid. The Proof of Submission of EMD should be uploaded/attached along Bid/offer Document.

Note:-

- a. Please ensure that all uploaded documents should be digital signed.
- b. While uploading the documents, it should be ensured that the file name should be the name of the document itself. The entire technical document through digital signature would first be uploaded in 'Document Library' and after that, attach entire tender document in the particular tender.

D) Modification /Substitution/Withdrawal of bids:

- (i) The Bidder may modify, substitute or withdraw its e- bid after submission. Prior to the Bid Due Date. No Bid shall be modified, substituted or withdrawn by the Applicant on or after the Bid Due Date.
- (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.
- (v) Before withdrawal of a bid, it may specifically be noted that after withdrawal of a bid for any reason, applicant cannot re-submit e-bid again.

E) OPENING AND EVALUATION OF BIDS:

- i. Opening of Bids will be done through online process.
- ii. For participating in the tender, the authorized signatory holding Power of Attorney shall be the Digital Signatory. In case the authorized signatory holding Power of Attorney and Digital Signatory are not the same, the bid shall be considered non-responsive.
- iii. The Authority shall open bid documents received in electronic format 15:30 hours Indian Standard Time on the Bid due date. This Authority will subsequently examine and evaluate the Bids in accordance with the provisions set out in the BID DOCUMENTS.
- iv. The DFCCIL Authority shall open bid documents received in electronic form at the scheduled date and time of opening of tender i.e. in the presence of the Bidders who choose to attend. The DFCCIL Authority will subsequently examine and evaluate the Bids in accordance with the provisions set out in the BID DOCUMENTS.
- v. The Financial Bid will be opened of the pre-qualified and short listed Bidders. The date of opening of Financial Proposal will be notified later on.



DISCLAIMER

The Bidder must read all the instructions in the BID DOCUMENTS and submit the same accordingly.

F) Online E-Bidding Methodology:

Online E-Bid System–Technical & Financial bids shall be submitted by the bidder at the same time.

G) Digital Certificates

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 Class Three 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 Authorities (CCA) [refer <http://www.cca.gov.in>].

(iv) Scope of Work

On behalf of President of India, Chief General Manager/PRYJ (E), DFCCIL Office Complex, OCC BUILDING, SUBEDARGANJ, PRAYAGRAJ, UTTAR PRADESH-211012, India Phone No. 0532-2287613 India, hereinafter referred to as 'DFCCIL' is inviting e-tenders from Firms/ Companies having requisite experience and financial capacity for execution of the following work:

Work of Construction of Crew Running Room at New Pt. Deen Dayal Junction, under jurisdiction of CGM/ PRYJ(E).

I. Scope of work is as per the requirements given in the bid document but not limited to:

i. The proposed work mainly comprises of composite work for construction of Crew Running Room, including fire fighting arrangement, electrical works, lift and other connected works like water supply, sewerage, drainage, sanitary, land scaping etc. at New Pt. Deen Dayal Upadhyay Junction, under jurisdiction of CGM/ PRYJ(E).

ii. Other miscellaneous work.

II. Cost of the work: The estimated cost of the tendered work is approximately ₹ 315248573/- Including GST (Rupees Thirty One Crore Fifty Two Lakhs Forty Eight Thousand And Five Hundred Seventy Three Rupees Only).

III. The tenderer shall be governed by Conditions of Contract, Instructions to Tenderers (ITT).

IV. Location

Works are to be executed at New Pt. Deen Dayal Upadhyay Junction Stations of Eastern Dedicated Freight Corridor, under the jurisdiction of Chief General Manager/PRYJ(E)/DFCCIL. However, DFCCIL reserves right to change the site & length of work anywhere in adjacent/adjoining area of the worked lined in the jurisdiction and the contractor shall be bound to execute the work without any extra cost.

1.3.2(a) Tender Bid

The Tender Bid shall be submitted through online only on website

www.ireps.gov.in as under:-



Eligibility/Qualifying element of the Tender Bid along with other documents mentioned in Para 1.3.2(b), hereinafter called “TECHNICAL & FINANCIAL BID “The detailed procedure for tender opening and processing is given in Para 1.3.5.

1.3.2(b) Form of Tender

The Tender documents shall be in single stage two packets viz:-

“containing technical bid and financial bid. Detailed credentials as per there requirement of eligibility criteria and all tender papers except.

Summary of Prices and schedule of Prices with percentage above/below/at par duly filled in are to be submitted in Schedule G “BID DOCUMENT”.

Tenders not submitted in the proper Forms are liable to be rejected.

Documents to be enclosed with the TECHNICAL BID

S.No	Description	Documents
(1)	Offer letter complete.	Form No.1
(2)	Tenderer's credentials in accordance With para 1.3.13(i)&(ii) of Preamble and General Instructions to Tenderers. Form No. 2A, 2B & 2C	
(3)	Earnest money/Bid Security in accordance with Para 1.3.8 and Cost of Tender Document in case of downloaded tenders in accordance with Para 1.3.4.3 of Preamble and General Instructions to Tenderers in IREPS Website.	
(4)	Written confirmation authorizing the signatory of the tender to commit the tenderer and other documents as per format as applicable, in accordance with para 1.3.6 of Preamble and General Instructions to Tenderers.	
(5)	Summary of Prices, Schedule of Prices & Total Prices	Schedule G

1.3.3 Deleted

1.3.4 Sale and Submission of Tender Document

1.3.4.1 All bidders must note that this being E-tender, bids received only through online mode on E-tendering portal <https://www.ireps.gov.in> shall only be considered as an offer.

1.3.4.2 Clause applicable for tender documents downloaded from Internet

Tenderer/s is free to download tender documents at their own cost, for the purpose of perusal as well as for using the same as tender document for submitting their offer. Master copy of the tender document will be available in the office of Chief General Manager/PRYJ (E), DFCCIL Office Complex, OCC BUILDING, SUBEDARGANJ, PRAYAGRAJ, UTTAR PRADESH-211012, India.

After award of the work, an agreement will be drawn up. The agreement shall be prepared based on the master copy available in the office of Chief General Manager/PRYJ (E), DFCCIL Office



Complex, OCC BUILDING, SUBEDARGANJ, PRAYAGRAJ, UTTAR PRADESH-211012, India and not based on the tender documents submitted by the Tenderer. In case of any discrepancy between the tender documents downloaded from the internet and the master copy, later shall prevail and will be binding on the Tenderers. No claim on this account shall be entertained. s

1.3.4.3 Tender documents downloaded from internet

Tender documents are available on Dedicated Freight Corridor Corporation of India Limited website i.e. www.dfccil.com & www.ireps.gov.in and the same can be downloaded and used as tender documents for submitting the offer. The cost of Bid Security will have to be deposited by the tenderer in DFCCIL Bank Account as mentioned IREPS portal through net banking or payment gateway (online mode only) on or before schedule date & time of submission of bid. The proof of submission of EMD should be uploaded/attached along with Bid/offer document.

1.3.4.4 Complete tender documents must be submitted online duly completed in all respect upto the scheduled date and time mentioned in the Para 1.1.1 of Notice Inviting E-Tender. The “Packet-A (TECHNICAL BID)” will be opened on the scheduled day and time and read out in the presence of such tenderer(s) as is/are present. In case the intended date for opening of tenders is declared a holiday, the tenders will be opened on the next working day at the same time. Any modified date and time for submission of tenders shall be uploaded on DFCCIL website www.dfccil.com and <https://www.ireps.gov.in>. The detailed procedure of tender opening will be as per para 1.3.5.

1.3.4.5 Financial Bid shall be filled directly on the website <https://www.ireps.gov.in> through digital signature and not to be submitted in hard copy at all. The financial bid should neither be scanned & uploaded, nor, the hard copy of the same should be submitted to the office of Employer.

1.3.4.6 Deleted.

1.3.4.7 Deleted.

1.3.4.8 Care in Submission of Tenders –
(Railway Board letter no. 2017/CE-I/CT/4/GST dated 23.06.2017)

- (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 with that the rates he enters in the tender forms are adequate and all inclusive to accord with the provisions in Standard Conditions of Contract for the completion of works to the entire satisfaction of the Engineer.
- (II) Tenders 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. Tenders will ensure that full benefit of Input Tax (ITC) likely to be availed by them is duly considered while quoting rates.



- (III) The successful tenderer who is liable to be registered under CGST/IGST/UTGST/SGST Act shall submit GSTIN alongwith other details required under CGST/IGST/UTGST/SGST Act to railway immediately after the award of contract, without which no payment shall be released to the contractor. The contractor shall be responsible for deposition of applicable GST to the concerned authority.
- (IV) In case, the successful tenderer is not liable to be registered under CGST/IGST/UTGST/SGST Act, the railway/DFCCIL shall deduct the applicable GST from his/their bills under reverse charge mechanism (RCM) and deposit the same to the concerned authority.

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

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.

- 1.3.4.9 Tenders containing erasures and/or alteration of the tender documents are liable to be rejected. Any correction made by Tenderer(s) in his/their entries must be tested by him/them.
- 1.3.4.10 The bid submitted / received after the time and date fixed for receipt of Bids as set out in the documents are liable to be rejected.
- 1.3.4.11 Conditional tenders are liable to be rejected straight way. DFCCIL reserves the right to reject such tenders summarily without assigning any reasons whatsoever. In case tenderer/s still decides to have conditional offer, all such conditions are required to be listed separately and shall be supplemented by the details of exact financial implications, if applicable. DFCCIL will not take cognizance of any other conditions / variations from the tender stipulations mentioned at any other place in the tender documents.
- 1.3.4.12 The bidder shall submit only one bid in the capacity of an individual or sole proprietor, partnership firm or company. Violation of this condition is liable to disqualify the tender in which bidder has participated and EMD of all such tenderers shall be forfeited.
- 1.3.4.13 Withdrawal of Tender: No tender can be withdrawn after submission and during tender validity period

1.3.5 Opening of Tender:

- (a) Tender will be open date 15.30 hrs. On XX.03.2024, in the office of Chief General Manager/PRYJ (E), DFCCIL Office Complex, OCC BUILDING, SUBEDARGANJ, PRAYAGRAJ, UTTAR PRADESH-211012, India, electronically in the presence of the tenderers or the representatives as may be present at the prescribed date and time.
- (b) 'TECHNICAL BID (Packet- A)' only of all the tenderers shall be opened and the contents thereof i.e. qualification details shall be read out.
- (c) After the opening of "TECHNICAL BID" (Packet-A) of all the tenderers, these bids shall be scrutinized and analyzed. If found necessary by the Employer, the tenderers shall be asked to furnish clarifications and the Employer may also hold discussions with the tenderers after giving due notice. The names of the tenderers whose bid are considered complete and meet eligibility criteria shall be shortlisted.



- (d) The FINANCIAL BID (Packet–B) shall be opened on a subsequent date and time duly notified well in advance. The Financial bids of only those tenderers shall be opened who are shortlisted after scrutiny of their Technical bid. The Financial bid of the tenders who do not qualify during scrutiny of Technical bid shall not be opened and these shall be returned by the employer. The time of opening, date and venue shall be advised to qualified tenderers well in advance to enable them to depute their representative. The earnest money of non-qualifying tenderers will be returned back within a reasonable period after completion of results of Technical bid.
- (e) The Bid Security/Earnest Money of non-qualifying tenderers will be returned back within a reasonable period of completion of results of Technical and Financial Bid.

1.3.6 Constitution of the Firm:-

1.3.6.1 Tenderer shall clearly specify whether the tender is submitted on his own or on behalf of a partnership firm/JointVenture(JV)/Company. The tenderer(s) who is / are constituents of the firm / Company, shall enclose self attested copies of the constitution of their concern, Partnership Deed and Power of attorney along with their tender. Tender documents in such cases shall be signed by such persons as may be legally competent to sign them on behalf of the firm/company as the case may be.

1.3.6.2 The tenderer shall give full details of the constitution of the Firm / JV /Company and shall also submit following documents(as applicable), in addition to documents mentioned above:

- (a) Sole Proprietorship Firm: The tenderer shall submit the notarized copy of the affidavit.
- (b) Partnership Firm: The tenderer shall submit self-attested copies of (i) registered/notarized Partnership Deed and (ii) Power of Attorney duly authorizing one or more of the partners of the firm or any other person(s), authorized by all the partners to act on behalf of the firm and to submit & sign the tender, sign the agreement, witness measurements, sign measurement books, receive payments, make correspondences, compromise/settle/relinquish any claim (s) preferred by the firm, Sign "No claim Certificate", refer all or any dispute to arbitration and to take similar action in respect of all tenders/contracts or said tender/contract.
- (c) Joint Venture: The tenderer shall submit documents as mentioned in Contract Clause.
- (d) Companies registered under Companies Act-1956: The tenderer shall submit
- (e) The copies of Memorandum of Association (MOA) and Articles of Association (AOA) of the company; and (ii) Power of attorney duly registered/notarized by the company (backed by the resolution of Board of Directors) in favour of the individual, signing the tender on behalf of company.

1.3.6.3 If it is mentioned in the tender submission that it is being submitted on behalf of/by a sole Proprietorship Firm/Partnership Firm/Joint venture/registered Company etc. but above-mentioned documents (as applicable) are not enclosed along with tender, the tender shall be summarily rejected.

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



After opening of the tender, any document pertaining to the constitution of the Firm / Joint Venture etc. shall neither be asked nor be entertained /considered by DFCCIL.

1.3.6.4 A tender from Joint Venture/Partnership Firm etc. shall be considered only where permissible as per the tender conditions.

1.3.6.5 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 submission of tender. It may, however, recognize such power of attorney and changes after obtaining proper legal advice.

1.3.7 Validity of Tender:-

Tenderer shall keep his offer open for a minimum period of 120 days from the date of opening of the tender or as mentioned in the Tender Notice.

1.3.8 Bid Security/Earnest Money:-

The tender must be accompanied by Earnest Money in favour of 'Dedicated Freight Corridor Corporation of India Limited, CGM/PRYJ(E) deposited in any of the forms as mentioned, failing which the tender will not be considered. Any firm recognized by Department of Industrial Policy and Promotion (DIPP) as 'Startups' shall be exempted from payment of the Earnest Money. Labour Cooperative Societies shall submit only 50% of the Earnest Money.

The earnest money shall remain deposited with the DFCCIL for the period of validity of the offer prescribed in this tender i.e. 120 days from the date of opening of tender. In case of EMD being submitted in form of Bank Guarantees, the Bank Guarantee shall remain valid for 90 days beyond the validity of the bid. If the validity of the offer is extended, the validity of earnest money should also be extended failing which the offer after the expiry of the aforesaid period may not be considered by the DFCCIL. The proof of submission of EMD should be uploaded along with the Technical Bid.

The Earnest money should be in any of the following forms:

The Earnest Money (Bid Security) shall be deposited either in cash through e-payment gateway on <https://www.ireps.gov.in>.

Or,

Bank Guarantee on format from Nationalised/Indian Scheduled Commercial Bank. Bank guarantees shall remain valid for 90 days beyond the validity of the bid. Sample format for Bank Guarantee for EMD is enclosed as Form No. 06.

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

A scanned copy of the Bank Guarantee shall be uploaded on e-Procurement Portal (<https://www.ireps.gov.in>) while applying to the tender.



The original Bank Guarantee should be delivered in person to the official nominated as indicated in the tender document before the scheduled time and date of submission of bids.

Non submission of scanned copy of Bank Guarantee with the bid one-tendering portal (<https://www.ireps.gov.in>) and/or non submission of original Bank Guarantee within the specified period shall lead to summary rejection of bid.

The Tender Security shall remain valid for a period of 90 days beyond the validity period for the Tender.

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

The original instruments of Earnest Money (Bank Guarantee – in original) have to be submitted to Employer's office before the scheduled date and time of submission of the tender otherwise the Bid may not be considered.

The earnest money of the unsuccessful tenderer(s) will, save as here- in-before provided, be returned to the unsuccessful tenderer(s) within a reasonable time but the DFCCIL shall not be responsible for any loss or depreciation that may happen for the due performance of the stipulation to keep the offer open for the period specified in the tender documents or to the earnest money while in their possession or be liable to pay interest thereon.

NOTE: No interest shall be paid by DFCCIL on earnest money amount.

1.3.9 Execution of Contract Agreement:-

The Tenderer whose tender is accepted shall be required to appear in person at the office of Chief General Manager/PRYJ (E), DFCCIL Office Complex, OCC BUILDING, SUBEDARGANJ, PRAYAGRAJ, UTTAR PRADESH-211012, India Phone No. 0532-2287613 India or if a firm or corporation, a duly authorized representative shall so appear and execute the contract agreement within 60 days after notice that the contract has been awarded to him. Failure to do so shall constitute a breach of the agreement affected by the acceptance of the tender in which case the full value of the earnest money/Bid security accompanying the tender shall stand forfeited without prejudice to any other rights or remedies.

In the event of any tenderer whose tender is accepted refuses to execute the contract agreement as here in before provided, DFCCIL may determine that such tenderer has abandoned the contract and there upon his tender and acceptance thereof shall be treated as cancelled and DFCCIL shall be entitled to forfeit the full amount of the Earnest Money/Bid security.



1.3.10 Security Deposit Acceptance of Tender:

The security deposit/ rate of recovery/ mode of recovery on acceptance of tender shall be as per the terms and conditions of Contract Agreement.

1.3.11 Tenderer’s Address

The tenderer should state in the tender his postal address legibly and clearly. Any communication sent in time, to the tenderer by post at his said address shall be deemed to have reached the tenderer duly and in time. Important documents should be sent by registered post.

1.3.12 Right of DFCCIL to Deal with Tenders

- (a) The DFCCIL reserves the right of not to invite tenders for any of DFCCIL work or works or to invite open or limited tenders and when tenders are called to accept at tender in whole or in part or to reject any tender or all tenders without assigning reasons for any such action.
- (b) 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 no tenderer(s) shall demand any explanation for the cause of rejection this/ their tender nor the DFCCIL undertake to assign reasons for declining to consider or reject any particular tender or tenders.

1.3.13(i) Eligibility Criteria

(A) Technical Eligibility Criteria

Criteria	Compliance Requirement		Documents
Requirement	Single Entity	Joint venture	Submission Requirements



<p>The tenderer must have successfully completed any of the following during last 07(seven) years, ending last day of month previous to the one in which tender is invited:</p> <p>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.</p>	<p>Must meet requirement</p>	<p>Must meet requirement</p>	<p>The tenderer shall submit the completion certificates/certified completion certificates from the client(s) and or Photostat of original certificates of client. All documents either original or photocopy should be attested by Notary.</p>
---	------------------------------	------------------------------	---

Note:

1. In case the tenderer/s is a partnership firm, the work experience shall be the name of partnership firm only.
2. **Similar Work-Construction of Building On framed Structure Of Minimum G+3 Storey.**

Note:

1. Value of completed work done by a member in an earlier JV Firm shall be reckoned only to the extent of the concerned member’s share in that JV firm for the purpose of satisfying his / her compliance to the above mentioned technical eligibility criteria in the tender under consideration.
2. In case the tenderer/s is a partnership firm, the work experience shall be in the name of partnership firm only.



(B) Financial Eligibility Criteria

Criteria	Documents
Requirement	Submission Requirements
<p>The tenderer must have minimum average annual contractual turnover of V/N or V whichever is less; where, V = Advertised value of the tender in crores of Rupees N = Number of years prescribed for completion of work for which bids have been invited.</p> <p>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.</p> <p>The tenderers shall submit requisite information as per Form 2B, along with copies of Audited Balance Sheets duly certified by the Chartered Accountant/Certificate from Chartered Accountant duly supported by Audited Balance Sheet.</p>	<p>certificates/ Audited balance sheets and or Photostat of TDS certificates/Audited Balance sheets clearly indicating the contractual amount received. All documents either original or photocopy should be attested by Notary.</p>

Note:

- Contractual payments received by a Member in an earlier JV firm shall be reckoned only to extent of the concerned member’s share in that JV Firm for the purpose of satisfying compliance of the above mentioned financial eligibility criteria in tender for considerations.
- In case the tenderer/s is a partnership firm, the turnover etc. shall be in the name of partnership firm only.

1.3.13 (ii) Credentials of Tenderer

The tenderer shall provide satisfactory evidence in support of their technical and financial eligibility, which are acceptable to DFCCIL, as follows:

- For Technical eligibility criteria the details will be submitted in Form No. 2 A alongwith supporting documents.
- For Financial eligibility criteria, the details will be submitted in Form No. 2B alongwith supporting documents.
- The tenderer shall submit the completion certificates/certified completion certificates from the client(s) or Photostat of original certificates of client. All documents either original or photocopy should be attested by Notary. These certificates should indicate the details of works



carried out and successful commissioning of similar type of work executed by the tenderer. Completion certificate from Govt. organisation/PSUs/Public Limited Company will be accepted. The certificate from Private individual/Private Company for whom such works are executed shall not be accepted. In case, the work is executed for Public Limited Company, copy of work order, bill of Quantity, TDS certificate payments received and copy of final/last bill paid by client shall be submitted.

The following will be applicable for evaluating the eligibility:

- (i) Similar nature of work physically completed within the qualifying period, i.e. last Seven financial year and current financial year (even though the work might have commenced before the qualifying period) shall only be considered in evaluating the eligibility.
- (ii) The total value of similar nature of work completed during the qualifying period and not the payment received within qualifying period alone, shall be considered. In case, the final bill of similar nature of work has not been passed and final measurements have not been recorded, the paid amount including statutory deductions is to be considered. If final measurements have been recorded and work has been completed with negative variation, then also the paid amount including statutory deductions is to be considered.

However, if final measurements have been recorded and work has been completed with positive variation but variation has not been sanctioned, original contract agreement value or last sanctioned contract agreement value whichever is lower, shall be considered for judging eligibility.

- (iii) As proof of sufficient financial capacity and organization are sources, contractor execution of all completed /on-going works of all types (not confined to only similar works) during the last three financial years and in the current financial year (upto the date of submission of the tender) of a value as per financial eligibility criteria.
- (iv) Tenderer shall submit a statement of contractual payments received during last three financial years and current financial year on the prescribed Performa as per Form No. 2B. The details shall be based on the form 16-A issued by the employer i.e. the certificate of deduction of tax at source as per Income Tax Act 1961. The photocopies of Form 16-A shall be enclosed duly attested by Notary Public with seal and Notarial Stamp thereon or a certificate from auditor or audited balance sheet certified by Chartered Accountant clearly indicating the contractual amount received duly attested by Notary Public with seal and Notarial Stamp thereon.
- (v) The tenderer shall be considered disqualified/in-eligible if:
 - (a) The Tenderer or any of its partners and/ or subcontractors included in the tender has been banned for business with Ministry of Railways/DFCCIL along with any of its attached and subordinate offices through an order issued by Ministry of Railways as per list available on Website (<http://www.indianrailways.gov.in/railwayboard>) of Railway Board pertaining to banning of Business, with the banning being valid as on the date of submission the Tender.
 - (b) The Tenderer or any of its partners has suffered bankruptcy/insolvency or it is in the process of winding-up or there is a case of insolvency pending before any Court on the deadline of



submission of application.

- (vi) For the purposes of conversion of foreign currency to Indian rupees(INR) Bank Currency (BC) selling exchange rates as published by State Bank of India on the date 28 days prior to date of submission of tender shall be used. For few of the currencies where BC selling rates are not published by SBI or reserve bank of India, the exchange rate may be obtained from website- <http://www.oanda.com/currency/historical-rates> or <http://www.xe.com>.
- (vii) For the purpose of evaluation of proposals, all values given in INR ineligible qualification criteria and the values provided by the applicants in the proposal in the currencies other than INR shall be converted into one i.e. INR as per exchange rate mentioned in para (vi) above.

1.3.13(iii) System of Verification of Tenderer's Credential:

1. For the works tenders, it has been decided to adopt the affidavit-based system of credential verification. The tenderer shall submit along with the tender document, documents in support of his/their claim to fulfill the eligibility criteria as mentioned in the tender document. Each page of the copy of documents/certificates in support of certificates submitted by the tenderer, shall be self-attested/digitally signed by the tenderer or authorized representative of the tendering firm. Self-attestation shall include signature, stamp and date (on each page).
2. The tenderers shall submit a notarized affidavit on a non-judicial stamp paper 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 affidavit to be submitted by the bidder is enclosed as Form-22. **Non submission of an affidavit 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. 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. Any such verification or lack of such verification, by the railway shall not relieve the bidder of its obligations or liabilities hereunder nor will it affect any right of the railway there under.
4. In case of any wrong information submitted by tenderer, the contract shall be terminated, Bid Security, Performance (PG) and Security Deposit (SD) of contract forfeited and agency barred for doing business on entire DFCCIL for 5(five) years.

1.3.14 Period of Completion

The entire work is required to be completed in all aspects within 09 Months (Nine Months) from the date of issue of the acceptance letter. Time is the essence of contract. The contractor shall be required to maintain steady and regular progress to the satisfaction of the Engineer to ensure that the work will be completed in all respects within the stipulated time.



1.3.15 Deleted

1.3.16 If the Tenderer/s deliberately gives any wrong information about credentials/ documents in his/their tenders and there by create(s) circumstances for acceptance of his/their tender, DFCCIL reserves the right to reject such tender at any stage, besides, shall suspend business with such tenderer. The EMD of such tenderers shall also be forfeited.

1.3.17 Deleted

1.3.18 Quantum of work and materials:

The indicatives Quantum of works is included in the tender documents.

1.3.19 Employer not bound to accept any tender:

The employer shall not be bound to accept the lowest or any tenderer to assign any reason for non-acceptance or rejection of a tender. The employer reserves the right to accept any tender in respect of the whole or any portion of the work specified in the tender papers or to reduce the work or to accept any tender for less than the tendered quantities without assigning any reason whatsoever.

1.3.20 Schedule of Prices

The Schedule-1 of the tender document lists out the Schedule of Prices for various items. Based on these, the total tender value has also been worked out.

1.3.21 Performance Guarantee: Refer relevant clause of Contract Clause.

1.3.22 The tenderer shall furnish information for making payment through ECS/NEFT/RTGS (Tender Form No. 8 placed at tender documents).

1.3.23 Negotiation:

DFCCIL decide to negotiate with a view to bring down the rates, the tenderer called for negotiations should furnish the following form of declaration before commencement of negotiations.

"I..... do declare that in the event of failure of contemplate negotiations relating to Tender No..... dated my original tender shall remain open for acceptance on its original terms and conditions,".

1.3.24 Site Inspection:

Tenderers are requested to inspect the site and carry out careful examination to satisfy them as to the nature of work involved and facilities available at the site. They should note carefully all the existing structures and those under construction through other agencies. They should also study the suitability of utilizing the different equipments and the machinery that they intend to



use for the execution of the work. The tenderers should also select suitable sites for the purpose of locating their store yard, laboratory, staff quarters etc., and satisfy themselves with regard to the feasibility of transporting the girders, etc. from the yard to the final site of placement etc.

1.3.25 No form C&D shall be issued to the contractor for this work.

1.3.26 Preliminary examination of bids

- i) The DFCCIL shall examine the bids to determine whether they are complete, whether any computational errors have been made, whether the documents have been properly signed and whether the bids are generally in order.
- ii) Arithmetical errors shall be rectified on the following basis if found. If there is a discrepancy between the unit price and the total price, which is obtained by multiplying the unit price and quantity, or between subtotals and the total price, the unit or subtotal price shall prevail, and the total price shall be corrected.
- c) The rates should be quoted carefully in figures as well as in words. If there is variation between rates quoted in figures and in words, the rate quoted in 'words' shall be taken as correct. If more than one or improper rates are tendered for the same item, the tender is liable to be rejected.
- iii) Prior to the detailed evaluation, DFCCIL shall determine whether each bid is of acceptable quality, is generally complete and is substantially responsive to the bidding documents. For purposes of this determination, a substantially responsive bid is one that conforms to all the terms, conditions and specifications of the bidding documents without material deviations, objections, conditionality or reservation. A material deviation, objections, conditionality or reservation is one: a. That affects in any substantial way the scope, quality or Performance of the contract.
- iv) That limits in any substantial way, inconsistent with the bidding documents, the DFCCIL's rights or the successful Bidder's obligations under the contracts; or
- v) Whose rectification would unfairly affect the competitive position of other Bidders who are presenting substantially responsive bids.
- vi) If a bid is not substantially responsive, it shall be rejected by the DFCCIL.
- vii) In case of tenders containing any conditions or deviations or reservations about contents of tender document. DFCCIL can summarily reject such tender.

1.3.27 Evaluation and comparison of tenders

In case of opentenders, bids, which are determined as substantially responsive, shall be evaluated based on criteria as given in Eligibility Criteria" and as given in Notice Inviting E-Tender. The tenderer must submit all necessary authentic data with necessary supporting certificates of the various items of evaluation criteria failing which his tender is liable to be rejected.



1.3.28 Canvassing

No tenderer is permitted to canvass to DFCCIL on any matter relating to this tender. Any tenderer found doing so may be disqualified and his bid may be rejected.

1.3.29 Award of Contract

- a) DFCCIL shall notify the successful tenderer in writing by a Registered Letter/Courier/Speed Post or through bearer that his tender has been accepted.
- b) Letter of Acceptance after it is signed by the Contractor in token of his acceptance shall constitute a legal and binding contract between DFCCIL and the contractor till such time the contract agreement is signed.

1.3.30 Understanding and Amendments of Tender Documents:

- a) The bidder must own all responsibilities and bear all cost for obtaining all the information including risks, contingencies & other circumstances in execution of the work. It shall also carefully read and understand all its obligations & liabilities given in tender documents.
- b) The bidder is advised to visit and examine the site where the work is to be executed and its surroundings or other areas as deemed fit by the bidder and should obtain at his own cost all information that may be necessary for preparing the bid and execution of the contract. The cost of visiting the site and collecting relevant data shall be at the bidder's own expenses. It is a condition of the tender that the tenderer is deemed to have visited the site and satisfied himself with all the conditions prevailing including any difficulties for executing the work.
- c) At any time prior to the deadline for submission of bids, DFCCIL may for any reason whether at its own initiative or in response to any request by any prospective bidder amend the bidding documents by issuing Corrigendum, which shall be part of the Tender documents.
- d) DFCCIL may at its discretion extend the deadline for submission of the bids at any time before the time of submission of the bids.

1.3.31 Pre Bid Conference.

- I. The Pre-Bid Application conference shall be held on xx.02.2024 or such date, as subsequently conveyed through a separate notification/IREPS Portal. Pre-Bid Conference shall be held physically at Chief General Manager/PRYJ (E), DFCCIL Office Complex, OCC BUILDING, SUBEDARGANJ, PRAYAGRAJ, UTTAR PRADESH-211012, India. Those prospective bidders who are willing to attend the pre-EOI conference In person shall be allowed to attend (in person) the Pre-Bid Conference on the above cited Date in Conference hall of the DFCCIL Office Complex, OCC BUILDING, SUBEDARGANJ, PRAYAGRAJ, UTTAR PRADESH-211012, India. The Pre-EOI shall start at 11.30 Hrs onwards on the aforesaid date.
- II. Bidders during the aforesaid Conference, can, if they choose to do so, present their queries on the Bid Notification to the Client, in writing within the **limiting period from three days prior to Conference date up to three days beyond held Conference date (query submission deadline) in Form as below.**



FORMAT FOR Bidders’ (PRE- BID SUBMISSION) QUERY

(To be submitted through E Mail [E Mail Id-----], both in PDF & MS Word)

Bid Notification no-XX datedXX.XX.2024

Name of the Bidder:

Name of the Authorized Representative:

Designation:

Cell phone number:

E-Mail ID:

Date of Pre-EOI Submission conference:

Sl. No.	Reference Section/ Clause	Bid Document Page No.	Bidder Query with Justification	Existing Clause	Proposed amendment- Amended Clause

Signature on Bidder’s round Stamp	
Name	
Designation	
Cell phone number	
E Mail ID	



P R E A M B L E

Need for EPC contracts:

DFCCIL had hitherto been undertaking construction projects through the conventional item rate contracts where the Authority provides the detailed design as well as the estimates of quantities for different items of work (Bill of Quantities). Payments to the contractor are made on the basis of measurements of the work done in respect of each item. Experience in railway projects shows that item rate contracts are prone to excessive time and cost overruns due to delays in design and drawing, variation in items and quantities and inadequate fund provisions as allocation of construction risks are largely to the Authority. Considerable time of Project Engineers is consumed in dealing with variations in quantities, introduction of Non-Schedule Items and variation in contract price.

The growing requirements of the economy will necessitate faster expansion of the freight network through new capacity creation. Considering that improved and modernized project execution capabilities would be critical for speedy capacity creation, it has been decided to adopt the Engineering, Procurement and Construction (EPC) mode of contracting for construction of railway projects.

Model EPC Agreement:

The aforesaid drawbacks of item rate contracting can be addressed by adopting the EPC approach that relies on assigning the responsibility for investigations, design and construction to the contractor for a lump sum price determined through competitive bidding. The objective is to ensure speedy implementation of the project to the specified standards and cost effective designs, and least time overrun while assigning & balancing various risks judiciously between contractor and authority.

This Standard EPC Agreement provides a contractual framework that balances the allocation of risks and rewards, provides equity of obligations and penalties between Authority and the Contractor, minimizes the ambiguities and uncertainties, thus improves the predictability of cost & time. It also follows the global best practices related to force majeure, termination and dispute resolution, apart from transparent and fair procedures.

The Contractor also has full freedom to plan the construction schedule for efficient use of its manpower, equipment and other resource while



payments are linked to specified stages of construction (payment milestones) vis-à-vis the payment for individual items/units under the item rate contract. Awarding contract for a lump sum price ensures value engineering, balancing of risks and financial discipline, both for the contractor and the Authority. The contract price is subject to adjustment on account of GCC during the contract period as per specified formula.

Technical parameters:

The Standard EPC Agreement specifies the required design standards and allows the Contractor to design and construct the project using design engineering and global best practices to achieve quality, speed, efficiency and economy as compared to the item rate contract that relies on a fixed design provided by the Authority.

Only the core requirements of design and construction of the railway project that have a bearing on the quality and safety of assets are to be specified and enough room would be left for the contractor to add value. This would provide the requisite flexibility to the contractor in evolving and adopting the efficient designs without compromising on the quality and safety.

Contract period:

The contract period is determined on a project-specific basis depending on the volume of construction work involved & in this case the Time period is kept as 09 (Nine) Months. The Contractor shall be liable to pay Damages at the specified rate for each day of delay beyond the specified date of completion, subject to the total amount of Damages not exceeding 10 per cent of the Contract Price. However, the Contractor shall be entitled to time extension arising out of delays on account of change of scope and force majeure or delays caused by or attributable to the Authority.

Selection of contractor:

Selection of the contractor will be based on open competitive bidding. All project parameters such as the contract period, price adjustments and technical parameters are to be clearly stated upfront along with lump sum price for the Railway Project.

Risk allocation:



Projects risks such as soil conditions and weather or commercial and technical risks relating to design and construction have been assigned to the Contractor. The Authority accepts its liability to pay damages to the Contractor for any delays in handing over the land, approvals from road authorities for road over-bridges/under-bridges at level crossings, environment clearances, shifting of utilities and approvals in respect of engineering scale plan and signaling interlocking plan.

Design and Construction:

It defines the scope of the railway project with precision and predictability to enable the Contractor to determine its costs and obligations. It also lays down a ceiling of 25 per cent of contract price to cater for any changes in the scope of project, the cost of which the Authority will bear.

The Contractor shall carry out survey and investigations and also develop designs and drawings in conformity with the specifications and standards laid down in the Agreement. Authority's engineer shall review the design and drawings to ensure that these conform to the scope of the project, design standards and specifications. The EPC agreement also stipulates provisions for quality control and quality assurance.

Monitoring and Supervision:

Monitoring and supervision of construction are proposed to be undertaken through an engineer to be designated as 'Authority's Engineer', who would be assisted by requisite organizational support for day-to-day interaction between the Authority and the Contractor. Typical organizational structure proposed to be followed for Authority's Engineer shall be in line with the organizational set up being followed by DMRC for monitoring and supervision of their EPC contracts. The Authority's Engineer will act as a single window for coordination with the contractor.

The Agreement provides for the schedule indicating the timeline within which Authority will ensure the clearances of design proposals submitted by the contractor. Any comment by the Authority on the design proposals submitted by the contractor will be communicated in totality once in a time-bound manner as indicated in the schedule. The contractor will be free to proceed with construction after the expiry of specified period in case no remarks/clearances are given by the Authority.



Milestone based payments:

A simple and rational method for estimating interim payments to the Contractor has been provided in the Agreement. It ensures that payments are made for works conforming to the Agreement and commensurate with the stages of completion of works. Works have been broadly divided into One categories, namely, civil and Electrical works, which could be taken together under a single project or separately under different projects. Each item of work has been further sub-divided into stages and payment will be made for each completed stage of work.

A provision has been made for damages which the Contractor shall pay to Authority for not achieving the prescribed milestones. Authority will pay bonus to the Contractor for completion of the project before the scheduled completion date.

Defects liability period:

Though normally a defects liability period of one year is specified in most contracts, a defects liability period of Six months or One Monsoon whichever is later has been specified in the Agreement in order to provide additional comfort to the Authority.

Termination dispute resolution:

In the event the Authority terminates the Agreement on account of any of the specified defaults of the Contractor, the Agreement allows the Authority to forfeit the performance security & retention money of the Contractor. Similarly, defaults by the Authority are proposed to qualify for adequate compensatory payments to the contractor. The Agreement also addresses issues relating to dispute resolution and provides a mechanism for the same.



Part I
Preliminary



ENGINEERING, PROCUREMENT AND CONSTRUCTION AGREEMENT

THIS AGREEMENT is entered into on this the day of, 2024

BETWEEN

1 The President of India, represented by Chief General Manager, Dedicated Freight Corridor Corporation of India Limited, incorporated under the laws of India and having its principal place of business at, Pragati Maidan Metro Station Building Complex, New Delhi, India-110001 (hereinafter referred to as the “**Authority**” which expression shall, unless repugnant to the context or meaning thereof, include its administrators, successors and assigns) of One Part;

AND

2 {.....}², means the selected bidder having its registered office at, (hereinafter referred to as the “**Contractor**” which expression shall, unless repugnant to the context or meaning thereof, include its successors and permitted assigns) of the Other Part.

WHEREAS:

- (A) The Authority has the responsibility to develop, operate and maintain the Indian Railways in the territorial jurisdiction of the Central Railway zone.
- (B) The Authority had resolved to undertake the Construction of Crew Running Room at DDUN Station in connection with DFCCIL work, under jurisdiction of DFCCIL/CGM/ PRYJ(E) on Engineering, Procurement, Construction (“**EPC**”) basis in accordance with the terms and conditions to be set forth in an agreement to be entered into.
- (C) The Authority had prescribed the Technical and Financial terms and conditions, and invited Request for Participation (RFP) No. -----dated -----from the bidders for undertaking the Project.
- (D) After evaluation of the bids received, the Authority had accepted the bid of the selected bidder and issued its Letter of Acceptance No. *** dated *** (hereinafter called the “**LOA**”) to the selected bidder for construction of the above railway line at the Contract Price specified hereinafter, requiring the selected bidder to inter alia:
 - (i) deliver to the Authority a legal opinion from the legal counsel of the selected bidder with respect to the authority of the selected bidder to enter into this Agreement and the enforceability of the provisions thereof, within 10 (ten) days of the date of issue of LOA; and
 - (ii) execute this Agreement within 60 (Sixty) days of the date of issue of LOA.
- (E) The Contractor has fulfilled the requirements specified in Recital (D) above;

Now, therefore, in consideration of the foregoing and the respective covenants and agreements set forth in this Agreement, the sufficiency and adequacy of which is hereby



acknowledged, the Authority hereby covenants to pay the Contractor, in consideration of the obligations specified herein, the Contract Price or such other sum as may become payable under the provisions of the Agreement at the times and in the manner specified by the Agreement and intending to be legally bound hereby, the Parties agree as follows:



ARTICLE 1

DEFINITIONS AND INTERPRETATION

1.1 Definitions

The words and expressions beginning with capital letters and defined in this Agreement (including those in Article 26) shall, unless the context otherwise requires, have the meaning ascribed thereto herein, and the words and expressions defined in the Schedules and used therein shall have the meaning ascribed thereto in the Schedules.

1.2 Interpretation

1.2.1 In this Agreement, unless the context otherwise requires,

- (a) references to any legislation or any provision thereof shall include amendment or re-enactment or consolidation of such legislation or any provision thereof so far as such amendment or re-enactment or consolidation applies or is capable of applying to any transaction entered into hereunder;
- (b) references to laws of India or Indian law or regulation having the force of law shall include the laws, acts, ordinances, rules, regulations, bye laws or notifications which have the force of law in the territory of India and as from time to time may be amended, modified, supplemented, extended or re-enacted;
- (c) references to a “**person**” and words denoting a natural person shall be construed as a reference to any individual, firm, company, corporation, society, trust, government, state or agency of a state or any association or partnership (whether or not having separate legal personality) of two or more of the above and shall include successors and assigns;
- (d) the table of contents, headings or sub-headings in this Agreement are for convenience of reference only and shall not be used in, and shall not affect, the construction or interpretation of this Agreement;
- (e) the words “**include**” and “**including**” are to be construed without limitation and shall be deemed to be followed by “without limitation” or “but not limited to” whether or not they are followed by such phrases;
- (f) references to “**construction**” or “**building**” include, unless the context otherwise requires, survey and investigation, design, developing, engineering, procurement, supply of plant, materials, equipment, labour, delivery, transportation, installation, processing, fabrication, testing, and commissioning of the Railway Project, including maintenance during the Construction Period, removing of defects, if any, and other activities incidental to the construction and “**construct**” or “**build**” shall be construed accordingly;

- (g) references to “**development**” include, unless the context otherwise requires, construction, renovation, refurbishing, augmentation, up-gradation and other activities incidental thereto during the Construction Period, and “develop” shall be construed accordingly;
- (h) any reference to any period of time shall mean a reference to that according to Indian standard time;
- (i) any reference to day shall mean a reference to a calendar day;
- (j) reference to a “**business day**” shall be construed as reference to a day (other than a Sunday) on which banks in the State are generally open for business;
- (k) any reference to month shall mean a reference to a calendar month as per the Gregorian calendar;
- (l) references to any date, period or Project Milestone shall mean and include such date, period or Project Milestone as may be extended pursuant to this Agreement;
- (m) any reference to any period commencing “from” a specified day or date and “**till**” or “**until**” a specified day or date shall include both such days or dates; provided that if the last day of any period computed under this Agreement is not a business day, then the period shall run until the end of the next business day;
- (n) the words importing singular shall include plural and vice versa;
- (o) references to any gender shall include the other and the neutral gender;
- (p) “**lakh**” means a hundred thousand (100,000) and “**crore**” means ten million (10,000,000);
- (q) “**indebtedness**” shall be construed so as to include any obligation (whether incurred as principal or surety) for the payment or repayment of money, whether present or future, actual or contingent;
- (r) references to the “**winding-up**”, “**dissolution**”, “**insolvency**”, or “**reorganization**” of a company or corporation shall be construed so as to include any equivalent or analogous proceedings under the law of the jurisdiction in which such company or corporation is incorporated or any jurisdiction in which such company or corporation carries on business including the seeking of liquidation, winding-up, reorganization, dissolution, arrangement, protection or relief of debtors;
- (s) save and except as otherwise provided in this Agreement, any reference, at any time, to any agreement, deed, instrument, license or document of any description shall be construed as reference to that agreement, deed, instrument, license or other document as amended, varied, supplemented, modified or suspended at the time of such reference; provided that this Sub-clause(s) shall not operate so as to increase liabilities or obligations of the Authority hereunder or pursuant hereto in any manner whatsoever;

- (t) any agreement, consent, approval, authorization, notice, communication, information or report required under or pursuant to this Agreement from or by any Party or the Authority Engineer shall be valid and effective only if it is in writing under the hand of a duly authorized representative of such Party or the Authority Engineer, as the case may be, in this behalf and not otherwise;
- (u) the Schedules and Recitals to this Agreement form an integral part of this Agreement and will be in full force and effect as though they were expressly set out in the body of this Agreement;
- (v) references to Recitals, Articles, Clauses, Sub-clauses, Provisos or Schedules in this Agreement shall, except where the context otherwise requires, mean references to Recitals, Articles, Clauses, Sub-clauses, Provisos and Schedules of or to this Agreement; reference to an Annex shall, subject to anything to the contrary specified therein, be construed as a reference to an Annex to the Schedule in which such reference occurs; and reference to a Paragraph shall, subject to anything to the contrary specified therein, be construed as a reference to a Paragraph of the Schedule or Annex, as the case may be, in which such reference appears;
- (w) the damages payable by either Party to the other of them, as set forth in this Agreement, whether on per diem basis or otherwise, are mutually agreed genuine pre-estimated loss and damage likely to be suffered and incurred by the Party entitled to receive the same and are not by way of penalty (the “**Damages**”); and
- (x) time shall be of the essence in the performance of the Parties’ respective obligations. If any time period specified herein is extended for the reasons specified in the Agreement, such extended time shall also be of the essence.

1.2.2 Unless expressly provided otherwise in this Agreement, any Documentation required to be provided or furnished by the Contractor to the Authority shall be provided free of cost and in three copies, and if the Authority is required to return any such Documentation with its comments and/or approval, it shall be entitled to retain two copies thereof.

1.2.3 The rule of construction, if any, that a contract should be interpreted against the parties responsible for the drafting and preparation thereof, shall not apply.

1.2.4 Any word or expression used in this Agreement shall, unless otherwise defined or construed in this Agreement, bear its ordinary English meaning and, for these purposes, the General Clauses Act, 1897 shall not apply.

1.3 Measurements and arithmetic conventions

All measurements and calculations shall be in the metric system and calculations done to 2 (two) decimal places, with the third digit of 5 (five) or above being rounded up and below 5 (five) being rounded down.



1.4 Priority of agreements and errors/discrepancies

1.4.1 This Agreement, and all other agreements and documents forming part of or referred to in this Agreement are to be taken as mutually explanatory and, unless otherwise expressly provided elsewhere in this Agreement, the priority of this Agreement and other documents and agreements forming part hereof or referred to herein shall, in the event of any conflict between them, be in the following order:

- (a) this EPC Agreement; and
- (b) all other agreements and documents forming part hereof or referred to herein, i.e. this Agreement at (a) above shall prevail over the agreements and documents at (b).

1.4.2 Subject to the provisions of Clause 1.4.1, in case of ambiguities or discrepancies within this Agreement, the following shall apply:

- (a) between two or more Clauses of this Agreement, the provisions of a specific Clause relevant to the issue under consideration shall prevail over those in other Clauses;
- (b) between the Clauses of this Agreement and the Schedules, the Clauses shall prevail and between Schedules and Annexes, the Schedules shall prevail;
- (c) between any two Schedules, the Schedule relevant to the issue shall prevail;
- (d) between the written description on the Drawings and the Specifications and Standards, the latter shall prevail;
- (e) between the dimension scaled from the Drawing and its specific written dimension, the latter shall prevail; and
- (f) between any value written in numerals and that in words, the latter shall prevail.

1.5 Joint and several liability

1.5.1 If the Contractor has formed a Consortium/Joint Venture of two or more persons for implementing the Project:

- (a) these persons shall, without prejudice to the provisions of this Agreement, be deemed to be jointly and severally liable to the Authority for the performance of the Agreement; and
- (b) the Contractor shall ensure that no change in the composition of the Consortium/Joint Venture is effected without the prior consent of the Authority.

1.5.2 Without prejudice to the joint and several liability of all the members of the Consortium/Joint Venture, the Lead Member shall represent all the members of the Consortium/Joint Venture and shall at all times be liable and responsible for

discharging the functions and obligations of the Contractor. The Contractor shall ensure that each member of the Consortium/Joint Venture shall be bound by any decision, communication, notice, action or inaction of the Lead Member on any matter related to this Agreement and the Authority shall be entitled to rely upon any such action, decision or communication of the Lead Member. The Authority shall have the right to release payments solely to the Lead Member and shall not in any manner be responsible or liable for the *inter se* allocation of payments among members of the {Consortium/Joint Venture}.



Part II
Scope of the Project



ARTICLE 2
SCOPE OF THE PROJECT

2.1 Scope of the Project

Under this Agreement, the scope of the Project (the “**Scope of the Project**”) shall mean and include:

- (a) **Construction of Crew Running Room at DDUN Station in connection with DFCCIL work, under jurisdiction of DFCCIL/CGM/ PRYJ(E)** on the Site set forth in Schedule-A and as specified in Schedule-B together with provision of Project Facilities as specified in Schedule-C, and in conformity with the Specifications and Standards set forth in Schedule-D, **with Contractor’s own Material Supplies.**
- (b) Performance and fulfilment of all other obligations of the Contractor in accordance with the provisions of this Agreement and matters incidental thereto or necessary for the performance of any or all of the obligations of the Contractor under this Agreement.



ARTICLE 3

OBLIGATIONS OF THE CONTRACTOR

3.1 Obligations of the Contractor

- 3.1.1 Subject to and on the terms and conditions of this Agreement, the Contractor shall undertake the survey, investigation, design, engineering, procurement, and construction of the Crew Running Room at DDUN Station Project and observe, fulfil, comply with and perform all its obligations set out in this Agreement or arising hereunder.
- 3.1.2 The Contractor shall comply with all Applicable Laws and Applicable Permits (including renewals as required) in the performance of its obligations under this Agreement.
- 3.1.3 Save and except as otherwise provided in this Agreement or Applicable Laws, as the case may be, the Contractor shall, in discharge of all its obligations under this Agreement, conform with and adhere to Good Industry Practice at all times.
- 3.1.4 The Contractor shall remedy any and all loss or damage to the Railway Project, occurring on or after the Appointed Date and until the date of Provisional Certificate, with respect to the Works completed prior to the issuance of the Provisional Certificate and/or Completion Certificate, with respect to the Works referred to in the Punch List, at its own cost, save and except to the extent that any such loss or damage shall have arisen from any default of the Authority or on account of a Force Majeure Event in which case the provisions of Article 19 shall apply.
- 3.1.5 The Contractor shall remedy any and all loss or damage to the Railway Project during the Defects Liability Period at its own cost, to the extent that such loss or damage shall have arisen out of the reasons specified in Clause 15.3.
- 3.1.6 The Contractor shall, at its own cost and expense, in addition to and not in derogation of its obligations elsewhere set out in this Agreement:
- (a) make, or cause to be made, necessary applications to the relevant Government Instrumentalities with such particulars and details as may be required for obtaining Applicable Permits set forth in Schedule-E and obtain and keep in force and effect such Applicable Permits in conformity with Applicable Laws;
 - (b) procure, as required, the appropriate proprietary rights, licenses, agreements and permissions for Materials, methods, processes, know-how and systems used or incorporated into the Railway Project;
 - (c) make reasonable efforts to maintain harmony and good industrial relations among the personnel employed by it or its Sub-contractors in connection with the performance of its obligations under this Agreement;
 - (d) ensure that its Sub-contractors comply with all Applicable Permits and Applicable Laws in the performance by them of any of the Contractor's obligations under this Agreement;



- (e) always act in a manner consistent with the provisions of this Agreement and not cause or fail to do any act, deed or thing, whether intentionally or otherwise, which may in any manner be in violation of any of the provisions of this Agreement;
- (f) support, cooperate with and facilitate the Authority in the implementation and operation of the Project in accordance with the provisions of this Agreement;
- (g) ensure that the Contractor and its Sub-contractors comply with the safety and welfare measures for labour in accordance with Applicable Laws and Good Industry Practice;
- (h) keep, on the Site, a copy of this Agreement, publications named in this Agreement, the Drawings, Documents relating to the Project, Change of Scope Orders and other communications sent under this Agreement, and provide access to all these documents at all reasonable times to the Authority Engineer and its authorized personnel;
- (i) cooperate with other contractors employed by the Authority and with personnel of any other public authority; and
- (j) not interfere unnecessarily or improperly with the convenience of the public, or the access to and use and occupation of all the existing facilities within the Right of Way, irrespective of whether they are public or in the possession of the Authority or of others.
- (k) to provide reasoned comments on any information relating to the contractor's activities under or pursuant to the agreement, which the Authority may publish.

3.1.7 The Contractor shall undertake all necessary superintendence to plan, arrange, direct, manage, inspect and test the Works.

3.2 Obligations relating to sub-contracts and any other agreements

3.2.1 The Contractor shall not sub-contract the Works comprising more than 70% (seventy per cent) of the Contract Price and shall carry out Works for at least 30% (thirty per cent) of the total Contract Price directly under its own supervision and through its own personnel. The Parties expressly agree that for the purposes of computing the value of sub-contracts under this Clause 3.2.1, the Contract Price shall exclude any sub-contract for the procurement of goods and equipment like. The Parties agree that all obligations and liabilities under this Agreement for the entire Running Room at DDUN DFC Station Project shall at all time remain with the Contractor. {The Parties agree that the obligations of the Contractor to carry out Works equal to at least 30% (thirty per cent) of the Contract Price shall be discharged solely by the Lead Member.}§

§ May be deleted if the Contractor is not a Consortium/Joint Venture.

- 3.2.2 In the event any sub-contract for Works, or the aggregate of such sub-contracts with any Sub-contractor, exceeds 5% (five percent) of the Contract Price, the Contractor shall communicate the name and particulars, including the relevant experience of the sub-contractor, to the Authority prior to entering into any such sub-contract. Provided, however, that in any event the Contractor shall communicate the name and particulars to the Authority for any sub-contract including the relevant experience prior to entering into any such sub-contract. The Authority shall examine the particulars of the sub-contractor from the national security and public interest perspective and may require the Contractor, no later than 15 (fifteen) business days from the date of receiving the communication from the Contractor, not to proceed with the sub-contract, and the Contractor shall comply therewith and shall have no claim whatsoever on this account.
- 3.2.3 Without prejudice to the provisions of Clause 3.2.2, in the event any sub-contract referred to in Clause 3.2.2 relates to a sub-contractor who has, over the preceding 3 (three) financial years and the current financial year, not undertaken at least one work of a similar nature with a contract value exceeding 40% (forty per cent) of the value of the sub-contract to be awarded hereunder and received payments in respect thereof for an amount equal to at least 80% (eighty per cent) of such contract, the Authority may, no later than 15 (fifteen) business days from the date of receiving the communication from the Contractor, require the Contractor not to proceed with such sub-contract, and the Contractor shall comply therewith.
- 3.2.4 It is expressly agreed that the Contractor shall, at all times, be responsible and liable for all its obligations under this Agreement notwithstanding anything contained in the agreements with its Sub-contractors or any other agreement that may be entered into by the Contractor, and no default under any such agreement shall excuse the Contractor from its obligations or liability hereunder.
- 3.2.5 Notwithstanding anything to the contrary contained in this Agreement, the Contractor agrees and acknowledges that it will not assign any work to any contractor/sub-contractor from a country which shares a land border with India unless such contractor/sub-contractor is registered with the competent Authority. Contractor will ensure that such Contractor/sub-contractor fulfils all requirements in this regard and is eligible to be considered (evidence of valid registration by the competent authority is enclosed). The Competent Authority for registration will be the Registration Committee constituted by the Department for Promotion of Industry and Internal Trade (DPIIT), India.

3.3 Employment of foreign nationals

The Contractor acknowledges, agrees and undertakes that employment of foreign personnel by the Contractor and/or its Sub-contractors and their sub-contractors shall be subject to grant of requisite regulatory permits and approvals including employment/residential visas and work permits, if any required, and the obligation to apply for and obtain the same shall and will always be of the Contractor. Notwithstanding anything to the contrary contained in this Agreement, refusal of or inability to obtain any such permits and approvals by the Contractor or any of its Sub-contractors or their sub-contractors shall not constitute Force Majeure Event, and shall not in any manner excuse the Contractor from the performance and discharge of its obligations and liabilities under this Agreement.



3.4 Contractor's personnel

- 3.4.1 The Contractor shall ensure and procure that the personnel engaged by it or by its Sub-contractors for performance of its obligations under this Agreement are at all times appropriately qualified, skilled and experienced in their respective functions including in conformity with Applicable Laws including the Indian Railway General and Subsidiary Rules, [the Indian Electricity Rules], and Good Industry Practice.
- 3.4.2 The Authority Engineer may, for reasons to be specified in writing, direct the Contractor to remove any member of the Contractor's or Sub-contractor's personnel from the Railway Project. Provided, any such direction issued by the Authority Engineer shall specify the reasons for the removal of such person.
- 3.4.3 The Contractor shall, on receiving a direction from the Authority Engineer under the provisions of Clause 3.4.2, ensure and procure the removal of such person or persons from the Railway Project with immediate effect. The Contractor shall further ensure that such persons have no further connection with the Railway Project.
- 3.4.4 The Contractor shall be responsible for the Security of the Work Site and for keeping the unauthorized persons off the Site.

3.5 Advertisement on Railway Project

The Contractor shall not use the Crew Running Room at DDUN DFC Station Project or any part thereof in any manner for branding or advertising purposes including for advertising any commercial product or services or companies.

3.6 Contractor's care of the Works

The Contractor shall bear full risk in and take full responsibility for the care of Works, and of Materials, goods and equipment for incorporation therein, on and from the Appointed Date and until the date of Provisional Certificate, with respect to the Works completed prior to the issuance of the Provisional Certificate and/or Completion Certificate, with respect to the Works referred to in the Punch List, save and except to the extent that any such loss or damage shall have arisen from any default or neglect of the Authority.

3.7 Electricity, water and other services

The Contractor shall be responsible for procuring of all power, water and other services that it may require for the Railway Project.

3.8 Unforeseeable difficulties

Except as otherwise specified in the Agreement:

- (a) the Contractor accepts complete responsibility for having foreseen all difficulties and costs of successfully completing the Works;

- (b) the Contract Price shall not be adjusted to take account of any unforeseen difficulties or costs; and
- (c) the Scheduled Completion Date shall not be adjusted to take account of any unforeseen difficulties or costs.

For the purposes of this Clause, unforeseeable difficulties include physical conditions like man-made or natural physical conditions including sub-surface and hydrological conditions which the Contractor encounters at the Site during execution of the Works.

~~3.9 Training of Authority's personnel~~

~~3.9.1 The Contractor shall provide and complete the training to the personnel of the Authority in diagnostic, trouble shooting, repairing, operation and maintenance of the signalling and telecommunication equipment. The number of persons to be trained shall not exceed [6 (six)] and the period of training shall be for a period of [** (**)] weeks. The training shall be completed before the issuance of the Provisional Certificate/ Completion Certificate. Before the issue of any handing over certificate, the final O & M Manuals, wherever required, shall be submitted by the contractor to the Authority Engineer.~~

~~3.9.2 The Contractor shall provide training to the personnel of the Authority in SCADA. The number of persons to be trained shall not exceed [6 (six)] and the period of training shall be at least [** (**)] weeks. The training shall be completed before the issuance of the Provisional Certificate/ Completion Certificate.]~~

3.10 Safety at work site

The Contractor and its sub-contractors shall follow the safety instructions and take all safety measures for workmen and vehicles plying in the work area in accordance with Applicable Laws, Good Industry Practice and the provisions of this Agreement.



ARTICLE 4

OBLIGATIONS OF THE AUTHORITY

4.1 Obligations of the Authority

- 4.1.1 The Authority shall, at its own cost and expense, undertake, comply with and perform all its obligations set out in this Agreement or arising hereunder.
- 4.1.2 The Authority shall be responsible for the correctness of the Scope of the Project, Project Facilities, Specifications and Standards and the criteria for Testing of the completed Works.
- 4.1.3 The Authority shall, upon receiving the Performance Security under Clause 7.1.1, provide to the Contractor:
- (a) the Right of Way in accordance with the provisions of Clauses 8.2 and 8.3 on no less than 95% (ninety five per cent) of core land length and 90% (ninety percent) of non-core land length of the total length of the Railway Project before appointed date;
 - (b) The project does not involve any environmental and forest clearances under clause 4.3. However regulations, if any are involved during execution shall be complied by contractor. Authority shall extend necessary assistance in processing approvals and compliances if required.
- 4.1.4 In the event that (i) the Authority does not procure fulfilment of any or all of the obligations set forth in Clause 4.1.3 within the period specified in respect thereof, and (ii) the delay has not occurred as a result of breach of this Agreement by the Contractor or due to Force Majeure, the Authority shall pay to the Contractor Damages in a sum calculated in accordance with the provisions of Clause 8.3 of this Agreement and grant Time Extension in accordance with the provisions of Clause 10.4.
- 4.1.5 Notwithstanding anything to the contrary contained in this Agreement, the Parties expressly agree that the aggregate Damages payable by the Authority under Clauses 4.1.4, 4.4.3, 8.3 and 9.2 shall not exceed 5% (five per cent) of the Contract Price. For

the avoidance of doubt, the Damages payable by the Authority under the aforesaid Clauses shall not be additive if they arise concurrently from more than one cause but relate to the same part of the Railway Project.

- 4.1.6 The Authority agrees to provide support to the Contractor and undertakes to observe, comply with and perform, subject to and in accordance with the provisions of this Agreement and Applicable Laws, the following:
- (a) upon written request from the Contractor, and subject to the Contractor complying with Applicable Laws, provide reasonable support to the Contractor in procuring Applicable Permits required from any Government Instrumentality for implementation of the Project;
 - (b) upon written request from the Contractor, provide reasonable assistance to the Contractor in obtaining access to all necessary infrastructure facilities and utilities, including water and electricity at rates and on terms no less favorable than those generally available to commercial customers receiving substantially equivalent services;
 - (c) procure that no barriers that would have a material adverse effect on Works are erected or placed on or about the Railway Project by any Government Instrumentality or persons claiming through or under it, except for reasons of Emergency, national security or law and order;
 - (d) not do or omit to do any act, deed or thing which may in any manner be in violation of any of the provisions of this Agreement;
 - (e) support, cooperate with and facilitate the Contractor in the implementation of the Project in accordance with the provisions of this Agreement; and
 - (f) upon written request from the Contractor and subject to the provisions of Clause 3.3, provide reasonable assistance to the Contractor and any expatriate personnel of the Contractor or its Sub-contractors to obtain applicable visas and work permits for the purposes of discharge by the Contractor or its Sub-contractors of their obligations under this Agreement and the agreements with the Sub-contractors.

4.2 Maintenance and operation of the existing facilities

The Authority shall undertake the maintenance of the facilities existing prior to the Appointed Date including railway lines, bridges, structures, electrical, signaling and communications works within the Right of Way.

4.3 Environmental and Forest Clearances

The Authority represents and warrants that the environmental and forest clearances of Land mentioned in clause 4.1.3 (a) will be obtained before Appointed Date. In the event of any delay, the Contractor shall be entitled to Time Extension for the period of such delay in accordance with the provisions of Clause 10.4 of this Agreement and shall also be entitled to Damages calculated as if the Right of Way for and in respect of such sections of the Railway Project has not been provided in accordance with the

provisions of Clause 8.2 and as a consequence thereof, the Contractor shall be entitled to Damages under and in accordance with the provisions of Clause 8.3. For the avoidance of doubt, the present status of environmental and forest clearances is specified in Schedule-A.

4.4 Machinery and equipment (Deleted)

4.4.1 The Authority shall upon receiving a request from the Contractor, provide the machinery and equipment specified in Schedule P on payment of hire charges at the rates specified therein. The Parties agree that the rate for each machine or equipment shall be exclusive of fuel but inclusive of all other operating charges. The Parties further agree that for each machinery or equipment.

4.4.2 The Contractor shall by notice of at least three weeks convey to the Authority the particulars of the machinery and equipment required for each day of the following one month.

4.4.3 In the event that the Authority does not provide any machinery and equipment at the designated time in pursuance of the provisions of Clause 4.4.1, the Contractor shall be entitled to Damages in an amount equal twice the rates specified in Schedule-P. Provided further that the Contractor shall be entitled to Time Extension in accordance with the provisions of Clause 10.4 if the number of days for which the machinery has not been provided continuously exceeds 7 (seven) and/ or the total number of days of not providing the machinery exceed 15 (fifteen) days in a period of 03 months.

[4.5 Electricity transmission lines (Not in the scope of this contract)

~~The Authority shall procure the Applicable Permits and right of way for the erection, installation, and energisation of the transmission lines required for operating the Railway Project.~~

4.6 Disconnection for modification of existing signaling and telecommunication works (Not in the scope of this contract)

The Contractor shall on requirement of disconnection of a particular subsystem for modification in the existing signalling and telecommunication system at railway stations, level crossing gates and interlocked sections, inform the Authority Engineer by notice of at least one week of its readiness for commissioning and the Authority Engineer shall obtain the requisite approvals from the Authority for the required disconnections. All such work requiring disconnection of existing signalling systems shall be executed under supervision of Authority Engineer or his representative. The Parties expressly agree that in the event of any default in providing such disconnection, the Authority shall pay to the Contractor Damages at the rate of Rs. 1,000 (Rupees one thousand) per day. The Contractor shall ensure that there is no interruption/ disturbance to operational circuits in such cases of modification of signaling and telecom systems.

4.7 Provision of Power Blocks and Traffic Blocks

- 4.7.1 The Authority shall provide Power Block or Traffic Block or both to enable the Contractor to undertake the construction of overhead equipment, or such other work as may be determined by the Authority Engineer.
- 4.7.2 The Contractor shall, in consultation with the Authority Engineer, submit a weekly programme of Blocks, commencing from Monday, with a notice of at least 1 (one) week and the Authority Engineer shall convey the approved weekly programme to the Contractor no less than 3 (three) days prior to the start of such week.
- 4.7.3 The minimum period for which a Power Block or Traffic Block shall be provided to the Contractor shall not be less than two hours, period being counted from the time the track is placed at the disposal of the Contractor and until it is cleared by the Contractor. Provided, however, that a Power Block or Traffic Block, as the case may be, of shorter duration may be provided with mutual consent of the Parties.
- 4.7.4 The aggregate period of Power Block and Traffic Block to be provided to the Contractor during the Construction Period is specified in Schedule-O. The Contractor shall organize its work so as to complete all Construction Works within such aggregate period. However, this aggregate period may be increased by the Authority Engineer on Contractor's request, if the same is considered justified and reasonable under the prevailing circumstances.
- 4.7.5 In the event of any change in the schedule of Power Block or Traffic Block or both, as the case may be, the Authority shall inform the Contractor by a notice of not less than 24 (twenty-four) hours. Provided, however, that no such notice shall be required in case of a breakdown, accident, law and order disturbance, natural calamity or any other unusual occurrence or Emergency.
- 4.7.6 In the event a Power Block or Traffic Block, as the case may be, is not provided for any day in accordance with the confirmed programme, the Contractor shall be compensated by providing an additional Power Block or Traffic Block of equal time during the same week or the following week. The Parties expressly agree that in the event of any default in providing such additional blocks for compensating the Contractor, the Authority shall pay to the Contractor Damages at the rate of Rs. 1,000 (Rupees one thousand) per day for each hour which has not been provided as required hereunder and until such hour is provided during any of the 6 (six) following weeks.
- 4.7.7 The Contractor shall be entitled to undertake the Construction Works within the aggregate period specified in Schedule-O. Provided, however, that in the event the aggregate period utilized by the Contractor exceeds the period specified in Schedule-O and the extra time granted thereto under clause 4.7.4 if any, the Contractor shall pay to the Authority hourly charges at the rate specified therein.]

ARTICLE 5
REPRESENTATIONS AND WARRANTIES

5.1 Representations and warranties of the Contractor

The Contractor represents and warrants to the Authority that:

- (a) it is duly organized and validly existing under the laws of India, and has full power and authority to execute and perform its obligations under this Agreement and to carry out the transactions contemplated hereby;
- (b) it has taken all necessary corporate and other actions under Applicable Laws to authorize the execution and delivery of this Agreement and to validly exercise its rights and perform its obligations under this Agreement;
- (c) this Agreement constitutes its legal, valid and binding obligation, enforceable against it in accordance with the terms hereof, and its obligations under this Agreement will be legally valid, binding and enforceable obligations against it in accordance with the terms hereof;
- (d) it is subject to the laws of India, and hereby expressly and irrevocably waives any immunity in any jurisdiction in respect of this Agreement or matters arising there under including any obligation, liability or responsibility hereunder;
- (e) the information furnished in the Bid and as updated on or before the date of this Agreement is true and accurate in all respects as on the date of this Agreement;
- (f) the execution, delivery and performance of this Agreement will not conflict with, result in the breach of, constitute a default under, or accelerate performance required by any of the terms of its memorandum and articles of association or any Applicable Laws or any covenant, contract, agreement, arrangement, understanding, decree or order to which it is a party or by which it or any of its properties or assets is bound or affected;
- (g) there are no actions, suits, proceedings, or investigations pending or, to its knowledge, threatened against it at law or in equity before any court or before any other judicial, quasi-judicial or other authority, the outcome of which may result in the breach of this Agreement or which individually or in the aggregate may result in any material impairment of its ability to perform any of its obligations under this Agreement;
- (h) it has no knowledge of any violation or default with respect to any order, writ, injunction or decree of any court or any legally binding order of any Government Instrumentality which may result in any material adverse effect on its ability to perform its obligations under this Agreement and no fact or circumstance exists which may give rise to such proceedings that would adversely affect the performance of its obligations under this Agreement;



- (i) it has complied with Applicable Laws in all material respects and has not been subject to any fines, penalties, injunctive relief or any other civil or criminal liabilities which in the aggregate have or may have a material adverse effect on its ability to perform its obligations under this Agreement;
- (j) no representation or warranty by it contained herein or in any other document furnished by it to the Authority or to any Government Instrumentality in relation to Applicable Permits contains or will contain any untrue or misleading statement of material fact or omits or will omit to state a material fact necessary to make such representation or warranty not misleading;
- (k) no sums, in cash or kind, have been paid or will be paid, by it or on its behalf, to any person by way of fees, commission or otherwise for securing the contract or entering into this Agreement or for influencing or attempting to influence any officer or employee of the Authority in connection therewith;
- (l) all information provided by the {selected bidder/ members of the Consortium/Joint Venture} in response to the RFP or otherwise, is to the best of its knowledge and belief, true and accurate in all material respects; and
- (m) nothing contained in this Agreement shall create any contractual relationship or obligation between the Authority and any Sub-contractors, designers, consultants or agents of the Contractor.

5.2 Representations and warranties of the Authority

The Authority represents and warrants to the Contractor that:

- (a) it has full power and authority to execute, deliver and perform its obligations under this Agreement and to carry out the transactions contemplated herein and that it has taken all actions necessary to execute this Agreement, exercise its rights and perform its obligations, under this Agreement;
- (b) it has taken all necessary actions under Applicable Laws to authorize the execution, delivery and performance of this Agreement;
- (c) it has the financial standing and capacity to perform its obligations under this Agreement;
- (d) this Agreement constitutes a legal, valid and binding obligation enforceable against it in accordance with the terms hereof;
- (e) it has no knowledge of any violation or default with respect to any order, writ, injunction or any decree of any court or any legally binding order of any Government Instrumentality which may result in any material adverse effect on the Authority's ability to perform its obligations under this Agreement;
- (f) it has complied with Applicable Laws in all material respects;
- (g) it has good and valid right to the Site and has the power and authority to grant the Right of Way in respect thereof to the Contractor; and



- (h) it shall have procured, as on the Appointed Date, Right of Way and environment clearances such that the Contractor can commence construction forthwith on 95% (ninety-five per cent) of the core land length and 90% of non-core land length of the Railway Project.

5.3 Disclosure

In the event that any occurrence or circumstance comes to the attention of either Party that renders any of its aforesaid representations or warranties untrue or incorrect, such Party shall immediately notify the other Party of the same. Such notification shall not have the effect of remedying any breach of the representation or warranty that has been found to be untrue or incorrect nor shall it adversely affect or waive any obligation of either Party under this Agreement.



**ARTICLE 6
DISCLAIMER**

6.1 Disclaimer

- 6.1.1 The Contractor acknowledges that prior to the execution of this Agreement, the Contractor has, after a complete and careful examination, made an independent evaluation of the Request for Proposal (RFP), Scope of the Project, Specifications and Standards, Site, local conditions, physical qualities of ground, subsoil and geology, traffic volumes, suitability and availability of access routes to the Site and all information provided by the Authority or obtained, procured or gathered otherwise, and has determined to its satisfaction the accuracy or otherwise thereof and the nature and extent of difficulties, risks and hazards as are likely to arise or may be faced by it in the course of performance of its obligations hereunder. Save as provided in Clause 4.1.2 and Clause 5.2, the Authority makes no representation whatsoever, express, implicit or otherwise, regarding the accuracy, adequacy, correctness, reliability and/or completeness of any assessment, assumptions, statement or information provided by it and the Contractor confirms that it shall have no claim whatsoever against the Authority in this regard.
- 6.1.2 The Contractor acknowledges and hereby accepts to have satisfied itself as to the correctness and sufficiency of the Contract Price.
- 6.1.3 The Contractor acknowledges and hereby accepts the risk of inadequacy, mistake or error in or relating to any of the matters set forth in Clause 6.1.1 above and hereby acknowledges and agrees that the Authority shall not be liable for the same in any manner whatsoever to the Contractor, or any person claiming through or under any of them, and shall not lead to any adjustment of Contract Price or Scheduled Completion Date.
- 6.1.4 The Parties agree that any mistake or error in or relating to any of the matters set forth in Clause 6.1.1 above shall not vitiate this Agreement, or render it voidable.
- 6.1.5 In the event that either Party becomes aware of any mistake or error relating to any of the matters set forth in Clause 6.1.1 above, that Party shall immediately notify the other Party, specifying the mistake or error.
- 6.1.6 Except as otherwise provided in this Agreement, all risks relating to the Project shall be borne by the Contractor; and the Authority shall not be liable in any manner for such risks or the consequences thereof.

Part III
Construction



ARTICLE 7

PERFORMANCE SECURITY

7.1 Performance Security

7.1.1 The Contractor shall, for the performance of its obligations hereunder, provide to the Authority, within 30(Thirty) days of issue of LOA, an irrevocable and unconditional Bank Guarantee (the “Performance Security”), for an amount equal to 5% (five percent) of the Contract Price from a Bank in the form set forth in Annex-I of Schedule-F.

The Performance Security shall be valid until 60 (sixty) days of the expiry of the Defects Liability Period specified in Clause 15.1.1. Until such time the Performance Security is furnished by the Contractor pursuant hereto and the same comes into effect, the ‘Bid Security’ shall remain in force and effect, and upon such furnishing of the Performance Security, the Authority shall release the Bid Security to the Contractor. For the avoidance of doubt, the Parties expressly agree that the Contractor shall provide, no later than 30 (thirty) days prior to the expiry of the Performance Security for the Defects Liability Period specified in Clause 15.1.1, a Performance Security in respect of the extended Defects Liability Period, as specified in Clause 15.1.2, for an amount equal to 5% (five percent) of the estimated cost.

7.1.2 Notwithstanding anything to the contrary contained in this Agreement, the Parties agree that in the event of failure of the Contractor to provide the Performance Security in accordance with the provisions of Clause 7.1.1 and within the time specified therein or such extended period as may be provided by the Authority, in accordance with the provisions of Clause 7.1.3, the Authority shall encash the Bid Security and appropriate the proceeds thereof as part-Damages, and thereupon all rights, privileges, claims and entitlements of the Contractor under or arising out of this Agreement shall be deemed to have been waived by, and to have ceased with the concurrence of the Contractor, and this Agreement shall be deemed to have been terminated by mutual agreement of the Parties along with further levy of the Liquidated Damages equivalent to the stipulated ‘Performance Security’, which shall be recoverable from contractor’s pending/future dues with DFCCIL in any of the ongoing/future contracts.

7.1.3 In the event the Contractor fails to provide the Performance Security within 30 (Thirty) days of the issue of LOA as provided in Clause 7.1.1 above, the Contractor may seek extension of time for a period not exceeding a further 30 (Thirty) days on payment of damages for such extended period equivalent to a sum calculated at the rate of 0.002% (zero point zero zero two percent) of the Contract Price for each day of delay until the Performance Security is provided.

7.2 Extension of Performance Security

The Contractor may initially provide the Performance Security for a period of [2 (two) years]; provided that it shall procure the extension of the validity of the Performance Security, as necessary, at least 2 (two) months prior to the date of expiry thereof. Upon the Contractor providing an extended Performance Security, the



previous Performance Security shall be deemed to be released and the Authority shall return the same to the Contractor within a period of 7 (seven) business days from the date of submission of the extended Performance Security.

7.3 Appropriation of Performance Security

- 7.3.1 Upon occurrence of a Contractor Default, the Authority shall, without prejudice to its other rights and remedies hereunder or in law, be entitled to encash and appropriate from the Performance Security the amounts due to it as Damages for the Contractor Default.
- 7.3.2 Upon such encashment and appropriation from the Performance Security, the Contractor shall, within 30 (thirty) days thereof, replenish, in case of partial appropriation, to its original level the Performance Security, and in case of appropriation of the entire Performance Security provide a fresh Performance Security, as the case may be, and the Contractor shall, within the time so granted, replenish or furnish fresh Performance Security as aforesaid failing which the Authority shall be entitled to terminate the Agreement in accordance with Article 21. Upon such replenishment or furnishing of a fresh Performance Security, as the case may be, the Contractor shall be entitled to an additional Cure Period of 30 (thirty) days for remedying the Contractor Default, and in the event of the Contractor not curing its default within such Cure Period, the Authority shall be entitled to encash and appropriate such Performance Security as Damages, and to terminate this Agreement in accordance with Article 21.

7.4 Release of Performance Security

The Authority shall release the Performance Security within 60 (sixty) days of the expiry of the Defects Liability Period or the extended Defects Liability Period, as the case may be, under this Agreement. Notwithstanding the aforesaid, the Parties agree that the Authority shall not be obliged to release the Performance Security until all Defects identified during the Defects Liability Period or the extended Defects Liability Period, as the case may be, have been rectified.

7.5 Retention Money

- 7.5.1 From every payment for Works due to the Contractor in accordance with the provisions of Clause 17.5, the Authority shall deduct 6% (six per cent) thereof as guarantee money for performance of the obligations of the Contractor during the Construction Period (the “**Retention Money**”) subject to the condition that the maximum amount of Retention Money shall not exceed 5% (five per cent) of the Contract Price.
- 7.5.2 Upon occurrence of a Contractor’s Default, the Authority shall, without prejudice to its other rights and remedies hereunder or in law, be entitled to appropriate the relevant amounts from the Retention Money as Damages for such Contractor’s Default.
- 7.5.3 The Contractor may, upon furnishing an irrevocable and unconditional bank guarantee substantially in the form provided at Annex-II of Schedule-F, require the Authority to refund the Retention Money deducted by the Authority under the provisions of Clause 7.5.1. Provided that the refund hereunder shall be made in tranches of not less than 0.5% (zero point five percent) of the Contract Price. Further, the Retention money may be deposited as Bank Guarantee, issued by Scheduled

commercial Bank after signing of Contract Agreement, but before payment of first payment bill. Provided further that validity of Bank Guarantee shall be extended from time to time depending upon extension of Contract granted.

- 7.5.4 Within 15 (fifteen) days of the date of issue of the Completion Certificate, the Authority shall discharge the bank guarantees, if any, furnished by the Contractor under the provisions of Clause 7.5.3 and refund the balance of Retention Money remaining with the Authority after adjusting the amounts appropriated under the provisions of Clause 7.5.2 and the amounts refunded under the provisions of Clause 7.5.3.
- 7.5.5 The Parties agree that in the event of Termination of this Agreement, the Retention Money and the bank guarantees specified in this Clause 7.5 shall be treated as if they are Performance Security and shall be reckoned as such for the purposes of Termination Payment under Clause 21.6.

ARTICLE 8
RIGHT OF WAY

8.1 The Site

The site of the Railway Project (the “**Site**”) shall comprise the site described in Schedule-A in respect of which the Right of Way shall be provided by the Authority to the Contractor. The Authority shall be responsible for:

- (a) acquiring and providing Right of Way on the Site in accordance with the alignment plan, Floor Plans finalized by the Authority and attached with this document, free from all encroachments and encumbrances, and free access thereto for the execution of this Agreement;

[This Right of Way will not include completely free access to locations such as DDUN Station stations where working may affect safety of train traffic (i.e. relay room, locations boxes etc.). In such cases, right of work will be arranged by the Authority Engineer on written request made by contractor at least 7 days in advance, if such request is reasonable.]

- (b) obtaining environmental clearance and forest clearance for the Proposed Project.

8.2 Handing over of the Project Site

- 8.2.1 The Authority Representative and the Contractor shall, within 15 (fifteen) days of providing the Performance Security by the Contractor in accordance with the provisions of Clause 7.1, jointly inspect the Site and prepare a joint memorandum containing an inventory of the Site including the vacant and unencumbered land, buildings, structures, road/ railway works, trees and any other immovable property on or attached to the Site. Subject to the provisions of Clause 8.2.3, such memorandum shall have appended thereto an Appendix (the “**Appendix**”) specifying in reasonable detail those parts of the Site to which vacant access and Right of Way has not been given to the Contractor. Signing of the memorandum, in 2 (two) counterparts (each of which shall constitute an original), by the authorized representatives of the Parties shall be deemed to constitute a valid evidence of handing over of the Right of Way to the Contractor for discharging its obligations under and in accordance with the provisions of this Agreement and for no other purpose whatsoever.

For the avoidance of doubt, the Parties agree that subject to the provisions of Clauses 8.2.2 and 8.2.3, whenever the Authority is ready to provide Right of Way for any part or parts of the Site included in the “**Appendix**”, it shall by notice inform the Contractor, of the proposed date and time when the Authority Representative and the Contractor shall inspect the specified parts of the Site, and prepare a memorandum which shall be deemed to constitute a valid evidence of handing over of such Right of Way to the Contractor in accordance with the provisions of this Clause 8.2.1.

- 8.2.2 Notwithstanding anything to the contrary contained in this Clause 8.2, the Authority shall specify the parts of the Site, if any, for which Right of Way shall be provided to the Contractor on the dates specified in Schedule-A. Such parts shall also be included

in the Appendix prepared in pursuance of Clause 8.2.1. For the avoidance of doubt, the Parties expressly agree that the Appendix shall in no event contain Sections of the Railway Project the cumulative length of which exceeds 5% (Five per cent) of the core land length and 10% (Ten percent) of the non-core land length of the Railway Project.

- 8.2.3 The Authority shall provide the Right of Way to the Contractor, in respect of the land included in the Appendix, by the date specified in Schedule-A for each part of the Site referred to therein, but in no case later than 180 (one hundred and eighty) days of the Appointed Date, and in the event of delay for any reason other than Force Majeure or breach of this Agreement by the Contractor, it shall pay to the Contractor, Damages in a sum calculated in accordance with Clause 8.3.

8.3 Damages for delay in handing over the Site

- 8.3.1 In the event the Right of Way to any part of the Site is not provided by the Authority on or before the date(s) specified in Clause 8.2 for any reason other than Force Majeure or breach of this Agreement by the Contractor, the Authority shall pay Damages to the Contractor in a sum calculated in accordance with the following formula for and in respect of those parts of the core land to which the Right of Way has not been provided:

Amount of Damages in Rs. per day = Rs 3000 or part thereof on pro-rata basis.

In the event that any Damages are due and payable to the Contractor under the provisions of this Clause 8.3.1 for delay in providing the Right of Way, the Contractor shall, subject to the provisions of Clause 10.4, be entitled to Time Extension equal to the period for which the Damages have become due and payable under this Clause 8.3.1, save and except that:

- (a) if any delays involve time overlaps, the overlaps shall not be additive; and
- (b) such Time Extension shall be restricted only to the Works which are affected by the delay in providing the Right of Way.

For the avoidance of doubt, the Parties expressly agree that the Damages specified hereunder and the Time Extension specified in Clause 10.4 shall be restricted only to failure of the Authority to provide the Right of Way for and in respect of the width of the Site required for Works in accordance with the Good Industry Practice.

- 8.3.2 Notwithstanding anything to the contrary contained in this Agreement, the Contractor expressly agrees that Works on all parts of the Site for which Right of Way is granted within 60 (Sixty) days of the Appointed Date, or with respect to the parts of the Site provided in Schedule-A, no later than the date(s) specified therein, as the case may be, shall be completed before the Scheduled Completion Date and shall not qualify for any Time Extension under the provisions of Clause 8.3.1.
- 8.3.3 Notwithstanding anything to the contrary contained in this Agreement, the Authority may at any time withdraw any part of the Right of Way and the Works forming part

of this Agreement, subject to such Works not exceeding an aggregate value, such value to be determined in accordance with Schedule-G, equal to 5% (five per cent) of the Contract Price.

Provided that if Right of Way has not been provided within 60 (Sixty) days of the Appointed Date, for commencing construction on any part of the Site included in the Appendix, the affected Works shall be deemed to be withdrawn under the provisions of this Clause 8.3.3 unless the Parties agree to the contrary, and such Works shall not be computed for the purposes of the aforesaid ceiling of 5% (five per cent) of the Contract Price hereunder. For the avoidance of doubt, the Parties agree that such deemed withdrawal of Works hereunder shall be without prejudice to the Contractor's entitlement to Damages under Clauses 4.1.4, 8.3 and 9.2.

- 8.3.4 In the event of withdrawal of Works under Clause 8.3.3, including deemed withdrawal of Works, the Contract Price shall be reduced by an amount equal to 95% (ninety five per cent) of the value of the Works withdrawn and the Contractor shall not be entitled to any other compensation or Damages for the withdrawal of Works, including their deemed withdrawal, save and except for Damages as provided under Clause 4.3.

Provided that if any Works are withdrawn after commencement of the Construction of such Works, the Authority shall pay to the Contractor 100% (one hundred) of the fair value of the work done, as assessed by the Authority Engineer:

8.4 Site to be free from Encumbrances

Subject to the provisions of Clause 8.2, the Site shall be made available by the Authority to the Contractor pursuant hereto free from all Encumbrances and occupations and without the Contractor being required to make any payment to the Authority on account of any costs, compensation, expenses and charges for the acquisition and use of such Site for the duration of the Project Completion Schedule. For the avoidance of doubt, it is agreed that the existing rights of way, easements, privileges, liberties and appurtenances to the Site shall not be deemed to be Encumbrances. It is further agreed that, unless otherwise specified in this Agreement, the Contractor accepts and undertakes to bear any and all risks arising out of the inadequacy or physical condition of the Site.

8.5 Protection of Site from encroachments

On and after signing the memorandum and/or subsequent memorandum referred to in Clause 8.2.1, and until the issue of the Provisional Certificate, the Contractor shall maintain a round-the-clock vigil over the Site and shall ensure and procure that no encroachment thereon takes place. During the Construction Period, the Contractor shall protect the Site from any and all occupations, encroachments or Encumbrances, and shall not place or create nor permit any Sub-contractor or other person claiming through or under the Agreement to place or create any Encumbrance or security interest over all or any part of the Site or the Project Assets, or on any rights of the Contractor therein or under this Agreement, save and except as otherwise expressly set forth in this Agreement. In the event of any encroachment or occupation on any

part of the Site, the Contractor shall report such encroachment or occupation forthwith to the Authority and undertake its removal at its own cost and expenses.

8.6 Special/temporary Right of Way

The Contractor shall bear all costs and charges for any special or temporary right of way required by it in connection with access to the Site. The Contractor shall obtain at its cost such facilities on or outside the Site as may be required by it for the purposes of the Railway Project and the performance of its obligations under this Agreement.

8.7 Access to the Authority and the Authority Engineer

8.7.1 The Right of Way given to the Contractor hereunder shall always be subject to the right of access of the Authority and the Authority Engineer and their employees and agents for inspection, viewing and exercise of their rights and performance of their obligations under this Agreement.

8.7.2 The Contractor shall ensure, subject to all relevant safety procedures, that the Authority has unrestricted access to the Site during any Emergency.

8.8 Geological and archaeological finds

It is expressly agreed that mining, geological or archaeological rights do not form part of this Agreement with the Contractor for the Works, and the Contractor hereby acknowledges that it shall not have any mining rights or interest in the underlying minerals, fossils, antiquities, structures or other remnants or things either of particular geological or archaeological interest and that such rights, interest and property on or under the Site shall vest in and belong to the Authority or the concerned Government Instrumentality. The Contractor shall take all reasonable precautions to prevent its workmen or any other person from removing or damaging such interest or property and shall inform the Authority forthwith of the discovery thereof and comply with such instructions as the Authority or the concerned Government Instrumentality may reasonably give for the removal of such property. For the avoidance of doubt, it is agreed that any reasonable expenses incurred by the Contractor hereunder shall be reimbursed by the Authority. It is also agreed that the Authority shall procure that the instructions hereunder are issued by the concerned Government Instrumentality within a reasonable period.

**ARTICLE 9
UTILITIES AND TREES**

9.1 Existing utilities and roads

Notwithstanding anything to the contrary contained herein, the Contractor shall ensure that the respective entities owning the existing roads, right of way, level crossings, structures, or utilities on, under or above the Site are enabled by it to keep them in continuous satisfactory use, if necessary, by providing suitable temporary diversions with the authority of the controlling body of that road, right of way or utility.

9.2 Shifting of obstructing utilities

9.2.1 (a) In case of utilities belonging to Govt, semi govt, public sector, Autonomous bodies such as municipal corporation, zilla parishad etc, the Contractor shall, in accordance with Applicable Laws and with the proactive support & assistance of the Authority, cause shifting of any utility (including ordinary electric lines, all water pipes and telephone cables) to an appropriate location or alignment, if such utility or obstruction adversely affects/ infringes the execution of Works in accordance with this Agreement. The actual cost of shifting/relocation of such utilities, as approved and communicated/demanded by the entity owning such utility, shall be paid by the Authority directly to the entity. In the event of any delay in such shifting by the entity owning the utility beyond a period of 60 (Sixty) days from the date of notice by the Contractor to the entity owning the utility and to the Authority, the Contractor shall be entitled to Damages in a sum calculated in accordance with the formula specified in Clause 8.3.1 for the period of delay, and to Time Extension in accordance with Clause 10.4 for and in respect of the part(s) of the Works affected by such delay; provided that if the delays involve any time overlaps, the overlaps shall not be additive.

(b) In case where the above utility owner proposes to shifting of utilities by Authority, the same shall be executed by the contractor on Authority's behalf on BOQ basis as per the item rate schedule provided in this agreement. The charges if any, for processing of drawing, design, statutory charges etc shall be paid by authority directly to the utility owner.

(c) In case of utility/obstacles, belonging to private individuals or institutional owners such as private companies, and which are already identified and listed in this contract (schedule A site Annexure-1) as identified obstacles/ utilities, the contractor shall be fully responsible for shifting/ removing obstacles by taking appropriate action as directed by Authority Engineer, at his own cost.

(d) In case of utilities which are uncharted, (which are identified after the award of contract), the Authority may ask the contractor to carry out the shifting as per the BOQ items as included in para (b) above.

In all the above cases Authority shall play proactive role and shall extend necessary assistance to contractor for processing approvals.



9.2.2 For the existing utilities owned by Railways, where the shifting thereof can take place only after certain works for enabling its shifting have been completed by the Contractor, the Authority shall, undertake and complete its shifting within 60 (Sixty) days after the Contractor has notified the Authority of the completion of the enabling works. In the event of delay in shifting the utility, beyond the aforesaid period of 60 (Sixty) days, the Contractor shall be entitled to Damages for the period of delay in accordance with the provisions of this Clause 9.2.1.

9.3 New utilities

9.3.1 The Contractor shall allow, subject to such conditions as the Authority may specify, access to, and use of the Site for laying telephone lines, water pipes, electric cables or other public utilities. Where such access or use causes any financial loss to the Contractor, it may require the user of the Site to pay compensation or damages as per Applicable Laws. For the avoidance of doubt, it is agreed that use of the Site under this Clause 9.3 shall not in any manner relieve the Contractor of its obligation to construct and maintain the Railway Project in accordance with this Agreement and any damage caused by such use shall be restored forthwith at the cost of the Authority.

9.3.2 In the event the construction of any Works is affected by a new utility or works undertaken in accordance with this Clause 9.3, the Contractor shall be entitled to a reasonable Time Extension in accordance with Clause 10.4 for and in respect of the part(s) of the Works affected by such delay; provided that if the delays involve any time overlaps, the overlaps shall not be additive.

9.4 Felling of trees

The Authority shall obtain the Applicable Permits for felling of trees to be identified by the Authority for this purpose if and only if such trees cause a Material Adverse Effect on the construction of the Proposed Project. The cost of such felling and of the compensatory plantation of trees, if any, shall be borne by the Authority. In the event of any delay in felling thereof for reasons beyond the control of the Contractor; it shall be excused for failure to perform any part of its obligations hereunder if such failure is a direct consequence of delay in the felling of trees. The Parties hereto agree that the felled trees shall be deemed to be owned by the Authority and shall be disposed in such manner and subject to such conditions as the Authority may in its sole discretion deem appropriate. For the avoidance of doubt, the Parties agree that if any felling of trees hereunder is in a forest area, the Applicable Permit thereof shall be procured by the Authority within the time specified in the Agreement; and for any period of delay in providing the Applicable Permits, the Contractor shall be entitled to Damages and Time Extension as provided under Clause 9.2.1.

Subject to compliance of conditions stipulated by local and Forest authorities, Authority may direct Contractor to carry out the felling of Trees on BOQ basis. The disposal of these trees shall be undertaken by Authority as per the state/forest department regulations. Till the disposal, contractor shall be responsible for its safe keeping as per the directives of Authority Engineer. Compensatory plantation is not within the scope of this contract.

ARTICLE 10

DESIGN AND CONSTRUCTION OF THE RAILWAY PROJECT

10.1 Obligations prior to commencement of Works

10.1.1 Within 20 (twenty) days of the Appointed Date, the Contractor shall:

- (a) appoint its representative, duly authorized to deal with the Authority in respect of all matters under or arising out of or relating to this Agreement;
- (b) appoint a Design Engineer (the “Design Engineer”) who will head the Contractor’s design unit and shall be responsible for surveys, investigations, collection of data, and preparation of preliminary and detailed designs;
- (c) undertake and perform all such acts, deeds and things as may be necessary or required before commencement of Works under and in accordance with this Agreement, Applicable Laws and Applicable Permits; and
- (d) make its own arrangements for quarrying and procurement of materials needed for the Railway Project under and in accordance with Applicable Laws and Applicable Permits.

10.1.2 The Authority shall, within 15 (fifteen) days of the date of this Agreement, appoint an engineer (the “**Authority Engineer**”) to discharge the functions and duties specified in this Agreement, and shall notify to the Contractor the name, address and the date of appointment of the Authority Engineer forthwith.

10.1.3 Within 30 (thirty) days of the Appointed Date, the Contractor shall submit to the Authority and the Authority Engineer a programme/CPM Charts & Bar Charts (the “**Programme**”) for construction of Works, developed using networking techniques and giving the following details:

Part I Contractor’s organization for the Project, the project execution plan indicating arrangements for design and construction i.e. engagement of design consultants, project phasing and sub-contracting etc., environmental management plan, Quality Assurance Plan including design quality plan, traffic management and safety plan covering safety of users and workers during construction, Contractor’s key personnel, and equipment.

Part II Programme for completion of all stages of construction given in Schedule-G and Project Milestones of the Works as specified in Project Completion Schedule set forth in Schedule-I. The Programme shall include:

- (a) the order in which the Contractor intends to carry out the Works, including the anticipated timing of design and stages of Works;
- (b) the periods for reviews under Clause 10.2; and
- (c) the sequence and timing of inspections and tests specified in this Agreement.



The Contractor shall submit a revised programme whenever the previous programme is inconsistent with the actual progress or with the Contractor's obligations.

Part III Monthly cash flow forecast for the Project

Provided, however, that the Authority may, within a period of 21 (Twenty-one) days of receipt of the Programme, convey its comments to the Contractor stating the modifications, if any, required for compliance with the provisions of this Agreement, and the Contractor shall carry out such modifications, to the extent required for conforming with the provisions of this Agreement.

10.1.4 The Contractor shall plan the project work by keeping Schedule-G into consideration in order to maximise the cash flow and progress. However, the Authority Engineer may modify/break up any of the stage payment schedule (payment milestones) during execution if the same is considered essential to speed up the progress or if the contractor is not able to achieve a particular payment milestone due to the reasons/delays attributable to the Authority or due to the factors beyond the control of Contractor or to any unforeseen circumstances.

10.1.5 Procurement of items should be planned by the Contractor in consultation with the Authority Engineer. Procurement plan should be prepared in such a manner that those materials which have limited shelf life may be procured in a staggered manner so that materials are utilised/consumed well before its expiry. If the material/product does not remain of required specifications at the time of its actual use, the same will be replaced by the Contractor with materials conforming to Specifications at his own cost.

10.2 Design and Drawings

10.2.1 Design and Drawings shall be developed in conformity with the Specifications and Standards set forth in Schedule-D. In the event, the Contractor requires any relaxation in design standards due to restricted Right of Way in any section or unforeseen issues, the alternative design criteria for such section shall be provided for review/approval of the Authority Engineer.

10.2.2 The Contractor shall appoint a proof checking consultant at its cost (the "**Proof Consultant**") Contractor shall submit the panel of 3 names within 30 days of Appointed date to the Authority Engineer, after proposing to the Authority a panel of 3 (three) names of qualified, reputed and experienced firms and Authority will select one Proof Consultant from the above panel, provided, however, that if none of the name proposed in the panel is acceptable to the Authority and the reasons for the same are furnished to the Contractor, the Contractor shall propose to the Authority a revised panel of 3 (three) more names for obtaining the consent of the Authority. The Contractor shall also obtain the consent of the Authority for two key personnel of the Proof Consultant who shall have adequate experience and qualifications with respect to the main components of the Railway Project. The Authority shall, within 30 (thirty) days of receiving a panel from the Contractor, either convey its decision with reasons, to the Contractor, and if no such decision is conveyed within the said period, the Contractor may proceed with engaging of the Proof Consultant of its own choice. For the avoidance of doubt, the Parties agree that no firm or person having any conflict of interest shall be engaged for this purpose.

The Parties further agree that any assignments completed at least three years prior to the appointment hereunder shall not be reckoned for the purposes of conflict of interest.

10.2.3 The Proof Consultant shall:

- (a) evolve a systems approach with the Design Director so as to minimize the time required for approval of final designs and construction drawings; and
- (b) examine the designs expeditiously and wherever necessary raise observations/ seek clarifications etc. as deemed appropriate and refer back the drawings within 15 days for rectifications/clarifications, and finally proof check and endorse/counter-sign the detailed calculations, drawings and designs, which have been approved by the Design Director.

10.2.4 ~~In respect of the route control chart, the following shall apply:~~

~~(a) route control chart~~

- ~~(i) — The Contractor shall prepare and submit to the Authoritys Engineer all route control charts conforming to the ESP/SIPs, within a period of 3 (three) months from the Appointed Date;~~
- ~~(ii) — The Authority Engineer shall review the route control chart within two weeks and submit it with its comments to the Authority for its approval; and~~
- ~~(iii) — The Authority shall communicate the route control chart as approved by it within a period not exceeding 2(two) months from the date of submission of the route control chart by the Contractor. Such period of two months shall exclude any time that is taken by the Contractor in providing clarifications or modifications in response to any communication from the Authority.~~

10.2.5 ~~In the event of delay by the Contractor in submitting route control chart, as the case may be, within the period specified in Clause 10.2.4 for any reason other than Force Majeure or the delay attributable to the Authority, the Contractor shall pay Damages to the Authority in a sum equal to 0.001% (zero point zero zero one percent) of the Contract Price for each day of delay.~~

10.2.6 ~~In the event of delay by the Authority in providing to the Contractor the approved route control chart, within the period specified in Clause 10.2.4 for any reason other than Force Majeure or breach of this Agreement by the Contractor, the Authority shall pay Damages to the Contractor in a sum equal to 0.001% (zero point zero zero one percent) of the Contract Price for each day of delay, and shall also grant Time Extension in accordance with the provisions of Clause 10.4.~~

10.2.7 In regard to Contractor's obligations with respect to the design and Drawings of the Proposed Project as set forth in Schedule-H, the following shall apply:

- (a) The Contractor shall prepare and submit, with reasonable promptness and in such sequence as is consistent with the Project Completion Schedule, 3 (three)

copies each of the design and necessary Drawings, duly approved/signed by the Design Director and certified/signed by the Proof Consultant, to the Authority Engineer for review. ~~Provided, however, that in respect of Important Bridges, Major Bridges, Structures, railway stations and yards, the Authority Engineer may require additional drawings for its review in accordance with Good Industry Practice;~~

- (b) by submitting the Drawings for review to the Authority Engineer, the Contractor shall be deemed to have represented that it has determined and verified that the design and Drawings are in conformity with stipulated Specifications and Standards, the Applicable Laws, statutory stipulations and Good Industry Practice;
- (c) within 21 (twenty one) days of the receipt of the Drawings, the Authority Engineer shall review the same and convey its observations to the Contractor with particular reference to their conformity or otherwise with the Scope of the Project and the Specifications and Standards. Beyond the said period of 21 (twenty one) days, the Contractor shall not be obliged to await the observations of the Authority Engineer on the Drawings submitted pursuant hereto and may begin or continue Works at its own discretion and risk; ~~Provided, however, that in case of Important Bridges, Major Bridges, Structures, interlocking and telecom switching equipment and any other specified item the aforesaid period of 21 (twenty one) days may be extended as per the time limit as indicated in Annexure II of Schedule D;~~
- (d) if the aforesaid observations of the Authority Engineer indicate that the Drawings are not in conformity with the Scope of the Project or the Specifications and Standards, such Drawings shall be revised by the Contractor in conformity with the provisions of this Agreement and resubmitted to the Authority Engineer for review. The Authority Engineer shall give its observations, if any, within 10 (ten) days of receipt of the revised Drawings. In the event the Contractor fails to revise and resubmit such Drawings to the Authority Engineer for review as aforesaid, the Authority Engineer may cause the payment for the affected works to be withheld under and in accordance with the provisions of Clause 17.5.4. If the Contractor disputes any decision, direction or determination of the Authority Engineer hereunder, the Dispute shall be resolved in accordance with the Dispute Resolution Procedure;
- (e) no review and/or observation of the Authority Engineer and/or its failure to review and/or convey its observations on any Drawings shall relieve the Contractor of its obligations and liabilities under this Agreement in any manner nor shall the Authority Engineer or the Authority be liable for the same in any manner; and if errors, omissions, ambiguities, inconsistencies, inadequacies or other Defects are found in the Drawings, they shall, along with the affected Works, be corrected at the Contractor's cost, notwithstanding any review under this Article 10;
- (f) the Contractor shall be responsible for delays in submitting the Drawings, as set forth in Schedule-H, caused by reason of delays in surveys and field investigations, and shall not be entitled to seek any relief in respect thereof from the Authority; and

- (g) the Contractor warrants that its designers, including any third parties engaged by it, shall have the required experience and capability in accordance with Good Industry Practice and it shall indemnify the Authority against any damage, expense, liability, loss or claim, which the Authority might incur, sustain or be subject to arising from any breach of the Contractor's design responsibility and/or warranty as set out in this Clause.
- 10.2.8 Any cost or delay in construction arising from the review by the Authority Engineer shall be borne by the Contractor.
- 10.2.9 Works shall be executed in accordance with the Drawings provided by the Contractor in accordance with the provisions of this Clause 10.2 and the observations of the Authority Engineer thereon as communicated pursuant to the provisions of Clause 10.2.7. Such Drawings shall not be amended or altered without prior written notice to the Authority Engineer. If a Party becomes aware of an error or defect of a technical nature in the design or Drawings, that Party shall promptly give notice to the other Party of such error or defect.
- 10.2.10 Within 90 (ninety) days of the Project Completion Date, the Contractor shall furnish to the Authority and the Authority Engineer a complete set of as-built Drawings, in 2 (two) hard copies and in its editable digital format or in such other medium or manner as may be acceptable to the Authority, including an as-built survey illustrating the layout of the Proposed Project and setback lines, if any, of the buildings and structures forming part of Project Facilities, and shall hand them over to the Authority against receipt thereof.
- 10.2.11 The Contractor shall also appoint a safety consultant (the "**Safety Consultant**") contractor shall submit the panel within 30 days of Appointed date to the Authority Engineer, after proposing to the Authority a panel of 3 (three) names of qualified and experienced consultants having minimum 10 years experience in ensuring safety at work site from whom the Authority may choose 1 (one) to be the Safety Consultant. Provided, however, that if the panel is not acceptable to the Authority and the reasons for the same are furnished to the Contractor, the Contractor shall propose to the Authority a revised panel of 3 (three) names for obtaining the consent of the Authority. The Contractor shall also obtain the consent of the Authority for additional two key personnel of the Safety Consultant who shall have at least 5 years experience in ensuring safety at work site. The Authority shall, within 15 (fifteen) days of receiving a proposal from the Contractor hereunder, convey its decision, with reasons, to the Contractor, and if no such decision is conveyed within the said period, the Contractor may proceed with engaging of the Safety Consultant. The Safety Consultant shall:
- (a) evolve a system approach for undertaking a safety audit of the Railway Project during construction phase ; and
 - (b) proof check the detailed safety plan covering all aspects of including safety of Users, workers and equipment.

10.3 Construction of the Crew Running Room Project

- 10.3.1 The Contractor shall construct the Railway Project as specified in Schedule-B and Schedule-C, and in conformity with the Specifications and Standards set forth in Schedule-D. The Contractor shall be responsible for the correct positioning of all parts of the Works, and shall rectify any error in the positions, levels, dimensions or alignment of the Works.
- 10.3.2 The Contractor shall construct the Railway Project in accordance with the Project Completion Schedule set forth in Schedule-I. In the event that the Contractor fails to achieve any Project Milestone or the Scheduled Completion Date within a period of 30 (thirty) days from the date set forth in Schedule-I, unless such failure has occurred due to Force Majeure or for reasons attributable to the Authority, it shall pay Damages to the Authority in a sum calculated at the rate of 0.05% (zero point zero five per cent) of the Contract Price for delay of each day reckoned from the date specified in Schedule - I and until such Project Milestone is achieved or the Works are completed; provided that if the period for any or all Project Milestones or the Scheduled Completion Date is extended in accordance with the provisions of this Agreement, the dates set forth in Schedule-I shall be deemed to be modified accordingly and the provisions of this Agreement shall apply as if Schedule-I has been amended as above; provided further that in the event the Works are completed within or before the Scheduled Completion Date including any Time Extension, the Damages paid under this Clause 10.3.2 shall be refunded by the Authority to the Contractor, but without any interest thereon. For the avoidance of doubt, it is agreed that recovery of Damages under this Clause 10.3.2 shall be without prejudice to the rights of the Authority under this Agreement including the right of Termination thereof. The Parties further agree that Time Extension hereunder shall only be reckoned for and in respect of the affected Works as specified in Clause 10.4.2.
- 10.3.3 The Authority shall notify the Contractor of its decision to impose Damages in pursuance of the provisions of this Clause 10.3. Provided, however, that no deduction on account of Damages shall be effected by the Authority without taking into consideration the representation, if any, made by the Contractor within 20 (twenty) days of such notice. The Parties expressly agree that the total amount of Damages under Clause 10.3.2 shall not exceed 10% (ten percent) of the Contract Price.
- 10.3.4 Certain works, which are executed in the vicinity of running track, may require prior sanction of Commissioner of Railway Safety (CRS) before execution of such works are taken up by the Contractor. Authority Engineer will advise such works to the Contractor.

10.4 Extension of time for completion

- 10.4.1 Without prejudice to any other provision of this Agreement for and in respect of extension of time, the Contractor shall be entitled to extension of time in the Project Completion Schedule (the “**Time Extension**”) to the extent that completion of any Project Milestone is or will be delayed by any of the following, namely:
- (a) delay in providing the Right of Way, environmental/ forest clearances, or [signaling interlocking plan] and route control chart in accordance with the provisions of this Agreement;
 - (b) Change of Scope, unless an adjustment to the Scheduled Completion Date has been agreed under Article 13;



- (c) occurrence of a Force Majeure Event;
- (d) any delay, impediment or prevention caused by or attributable to the Authority, the Authority's personnel or the Authority's other contractors on the Site; and
- (e) any other cause or delay which entitles the Contractor to Time Extension in accordance with the provisions of this Agreement.

10.4.2 The Contractor shall, no later than 30 (thirty) business days from the occurrence of an event or circumstance specified in Clause 10.4.1, inform the Authority Engineer by notice in writing, with a copy to the Authority, stating in reasonable detail with supporting particulars, the event or circumstances giving rise to the claim for Time Extension in accordance with the provisions of this Agreement. Provided that the period of 15 (fifteen) business days shall be calculated from the date on which the Contractor became aware, or should have become aware, of the occurrence of such an event or circumstance.

Provided further that notwithstanding anything to the contrary contained in this Agreement, Time Extension shall be due and applicable only for the Works which are affected by the aforesaid events or circumstances and shall not in any manner affect the Project Completion Schedule for and in respect of the Works which are not affected thereby.

10.4.3 In the event of the failure of the Contractor to issue to the Authority Engineer a notice in accordance with the provisions of Clause 10.4.2 within the time specified therein, the Contractor shall not be entitled to any Time Extension and shall forfeit its right for any such claims in future. For the avoidance of doubt, in the event of failure of the Contractor to issue notice as specified in this Clause 10.4.3, the Authority shall be discharged from all liability in connection with the claim.

10.4.4 The Authority Engineer shall, on receipt of a claim in accordance with the provisions of Clause 10.4.2, examine the claim expeditiously within the time frame specified herein. In the event the Authority Engineer requires any clarifications to examine the claim, the Authority Engineer shall seek the same within 15 (fifteen) days from the date of receiving the claim. The Contractor shall, on the receipt of the communication of the Authority Engineer requesting for clarification, furnish the same to the Authority Engineer within 10 (ten) days thereof. The Authority Engineer shall, within a period of 30 (thirty) days from the date of receipt of such clarifications, forward in writing to the Contractor its determination of Time Extension. For the avoidance of doubt, the Parties agree that the Authority Engineer shall, in accordance with the provisions of this Agreement, notify the Contractor of the aforesaid Time Extension no later than 30 (thirty) days from the date of receipt of the Contractor's claim for Time Extension or the date of receipt of the clarification from the Contractor, as the case may be.

Provided that when determining each extension of time under this Clause 10.4, the Authority Engineer shall review previous determinations and may increase, but shall not decrease, the total Time Extension.

10.4.5 If the event or circumstance giving rise to the notice has a continuing effect:

- (a) the detailed claim shall be considered as interim;

- (b) the Contractor shall, no later than 10 (ten) days after the close of each month, send further interim claims specifying the accumulated delay, the extension of time claimed, and such further particulars as the Authority Engineer may reasonably require; and
- (c) the Contractor shall send a final claim within 30 (thirty) days after the effect of the event or the circumstance ceases.

Upon receipt of the claim hereunder, the Authority Engineer shall examine and determine the same in accordance with the provisions of Clause 10.4.4 within a period of 30 (thirty) days of the receipt thereof.

10.5 Incomplete Works

In the event the Contractor fails to complete the Works in accordance with the Project Completion Schedule, including any Time Extension granted under this Agreement, the Contractor shall Endeavour to complete the balance work expeditiously and shall pay Damages to the Authority in accordance with the provisions of Clause 10.3.2 for delay of each day until the Works are completed in accordance with the provisions of this Agreement. Recovery of Damages under this Clause shall be without prejudice to the rights of the Authority under this Agreement including the right to termination under Clause 21.1.

10.6 Equipment specific Maintenance Manual

No later than 90 (ninety) days prior to the Project Completion Date, the Contractor shall, in consultation with the Authority Engineer, evolve an equipment specific maintenance manual for equipment based on a new technology not currently in use in the Railways (the “**Maintenance Manual**”) for the regular operation and maintenance of such equipment in conformity with safety requirements, Good Industry Practice and manufacturer’s manuals and instructions and shall provide 10 (ten) hard copies and 2 (two) compact discs thereof to the Authority Engineer.

ARTICLE 11

QUALITY ASSURANCE, MONITORING AND SUPERVISION

11.1 Quality of Materials and workmanship

11.1.1 The Contractor shall ensure that the Construction, Materials and workmanship are in accordance with the requirements specified in this Agreement, Specifications and Standards and Good Industry Practice.

11.1.2 The Contractor warrants that all Materials shall be new, unused, not reconditioned and in conformity with Specification and Standards, Applicable Laws and Good Industry Practice, and that the Contractor shall not use any materials which are generally recognized as being deleterious under Good Industry Practice.

11.2 Quality control system

11.2.1 The Contractor shall establish a Quality Control Mechanism, Quality Assurance Plan (the “**Quality Assurance Plan**” or “**QAP**”), Material Testing Plan (the “**Material Testing Plan**” or “**MTP**”) and Method Statements for execution of works (the “**Method Statements**” or “**MS**”) in consultation of Authority Engineer.

11.2.2 The Contractor shall, within 30 (thirty) days of the Appointed Date, submit to the Authority Engineer its Quality Control Mechanism, QAP, MTP and MS which shall include the following:

- (a) organization, duties and responsibilities, procedures, inspections and documentation;
- (b) quality control mechanism including sampling and testing of Materials, tests required during the execution of works and frequencies by Contractor and Authority Engineer, 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 and Good Industry Practice; and
- (c) internal quality audit system. The Contractor shall carry out internal audits of the Quality management System regularly, and at least once every 6 months. The Contractor shall submit to the Engineer a report listing the results of each internal audit within 7 days of completion. Each report shall include, where appropriate, the proposed measures to improve and/or rectify the Quality Management System and/or its implementation.

The Authority Engineer shall convey its comments to the Contractor within a period of 21 (twenty-one) days of receipt of the QAP stating the modifications, if any, required, and the Contractor shall incorporate those in the QAP to the extent required for conforming with the provisions of this Clause 11.2.

11.2.3 The Contractor shall procure all documents, apparatus and instruments, fuel, consumables, water, electricity, labour, Materials, samples, and qualified personnel as are necessary for examining and testing the Project Assets, Materials and workmanship in accordance with the Quality Assurance Plan.

11.2.4 The cost of testing of Construction, Materials and workmanship under this Article 11 shall be borne by the Contractor.

11.3 Methodology

The Contractor shall, at least 15 (fifteen) days prior to the commencement of any construction activity, submit to the Authority Engineer for review the Method Statement proposed to be adopted for executing the Work, giving details of inspection checklist, quality parameters, equipment to be deployed, traffic management and measures for ensuring safety. The Authority Engineer shall complete the review and convey its comments, if any, to the Contractor within a period of 10 (ten) days from the date of receipt of the proposed method statement from the Contractor. The Contractor shall revise the method statements by incorporating these comments or else will advise the Authority Engineer reasons for not/partially including the same.

11.4 Inspection and technical audit by the Authority

The Authority or any representative authorized by the Authority in this behalf may inspect and review the progress and quality of the construction of Works and issue appropriate directions to the Authority Engineer and the Contractor for taking remedial action in the event the Works are not in accordance with the provisions of this Agreement.

11.5 External technical audit

At any time during construction, the Authority may appoint an external technical auditor to conduct an audit of the quality of the Works. The findings of the audit, to the extent accepted by the Authority, shall be notified to the Contractor and the Authority Engineer for taking remedial action in accordance with this Agreement. The Contractor shall provide all assistance as may be required by the auditor in the conduct of its audit hereunder. Notwithstanding anything contained in this Clause 11.5, the external technical audit shall not affect any obligations of the Contractor or the Authority Engineer under this Agreement.

11.6 Inspection of construction records

The Authority shall have the right to inspect the records of the Contractor relating to the Works.

11.7 Monthly progress reports

During the Construction Period, the Contractor shall, no later than 10 (ten) days after the close of each month, furnish to the Authority and the Authority Engineer a monthly report on the progress of Works and shall promptly give such other relevant information as may be required by the Authority Engineer along with all resources deployed and all problems faced during work.

11.8 Inspection

11.8.1 The Authority Engineer and its authorized representative shall at all times:

- (a) have full access to all parts of the Site and to all places from which natural Materials are being obtained for use in the Works; and
- (b) during production, manufacture and construction at the Site and at the place of production, be entitled to examine, inspect, measure and test the Materials and workmanship, and to check the progress of manufacture of Materials.

11.8.2 The Contractor shall give the Authority Engineer and its authorized agents access, facilities and safety equipment for carrying out their obligations under this Agreement.

11.8.3 The Authority Engineer shall submit a monthly inspection report (the “**Inspection Report**”) to the Authority and the Contractor bringing out the results of inspections and the remedial action taken by the Contractor in respect of Defects or deficiencies. For the avoidance of doubt, such inspection or submission of Inspection Report by the Authority Engineer shall not relieve or absolve the Contractor of its obligations and liabilities under this Agreement in any manner whatsoever.

11.9 Samples

The Contractor shall submit the following samples of Materials and relevant information to the Authority Engineer for review:

- (a) manufacturer’s test reports and standard samples of manufactured Materials; and
- (b) samples of such other Materials as the Authority Engineer may require.

11.10 Tests

11.10.1 For determining that the Works conform to the Specifications and Standards, the Authority Engineer shall require the Contractor to carry out or cause to be carried out tests, at such time and frequency and in such manner as specified in this Agreement, and in accordance with Good Industry Practice for quality assurance. The Contractor shall submit the schedule for performing such tests to the Authority Engineer well in advance and not less than 7 days prior to conducting such tests. The Contractor shall, with due diligence, carry out all the tests in accordance with the Agreement and furnish the results thereof to the Authority Engineer. Of the total tests for each category or type to be undertaken by the Contractor under the provisions of this Agreement and Good Industry Practice, the Authority Engineer or his authorized representative may witness or participate in such tests conducted or cause to be conducted by the Contractor. Documentation of test records to be maintained by Contractor and Authority Engineer or his authorized representative shall scrutinize 100% Testing records of all tests conducted as per existing guidelines of Indian Railways and Indian Road Congress. A copy of such tests records shall be provided to the Authority Engineer.

- 11.10.2 In the event that results of any tests conducted under this Clause 11.10 establish any Defects or deficiencies in the Works, the Contractor shall carry out remedial measures and furnish a report to the Authority Engineer in this behalf. The Authority Engineer shall require the Contractor to carry out or cause to be carried out tests to determine that such remedial measures have brought the Works into compliance with the Specifications and Standards, and the procedure shall be repeated until such Works conform to the Specifications and Standards. For the avoidance of doubt, the cost of such tests and the remedial measures in pursuance thereof shall be solely borne by the Contractor.

11.11 Examination of work before covering up

In respect of the work which the Authority Engineer is entitled to examine, inspect, measure or test before it is covered up or put out of view or any part of the work is placed thereon, the Contractor shall give notice to the Authority Engineer whenever any such work is ready and before it is covered up. The Authority Engineer shall then either carry out the examination, inspection or testing without unreasonable delay, or promptly give notice to the Contractor that the Authority Engineer does not require to do so. Provided, however, that if any work is of a continuous nature where it is not possible or prudent to keep it uncovered or incomplete, the Contractor shall notify the schedule of carrying out such work to give sufficient opportunity, not being less than 3 (three) business days' notice, to the Authority Engineer to conduct its inspection, measurement or test while the work is continuing. Provided further that in the event the Contractor receives no response from the Authority Engineer within a period of 3 (three) business days from the date on which the Contractor's notice hereunder is delivered to the Authority Engineer, the Contractor shall be entitled to assume that the Authority Engineer would not undertake the said inspection.

11.12 Rejection

- 11.12.1 If, as a result of an examination, inspection, measurement or testing, any Plant, Material, design or workmanship is found to be defective or otherwise not in accordance with the provisions of this Agreement, the Authority Engineer may reject such Plant, Material, design or workmanship by giving notice to the Contractor, with reasons. The Contractor shall then promptly make good the Defect and ensure that the rejected item complies with the requirements of this Agreement.
- 11.12.2 If the Authority Engineer requires the Plant, Material, design or workmanship to be retested, the tests shall be repeated on the same terms and conditions, as applicable in each case. If the rejection and retesting cause the Authority to incur any additional costs, such costs shall be recoverable by the Authority from the Contractor and may be deducted by the Authority from any monies due to be paid to the Contractor.
- 11.12.3 The Contractor shall not be entitled to any extension of time on account of rectifying any Defect or retesting as specified in this Clause 11.12.
- 11.12.4 No examination, inspection, measurement or testing of any Plant, Material, design or workmanship by the Authority Engineer or its failure to convey its observations or to examine, inspect, measure or test shall relieve the Contractor of its

obligations and liabilities under this Agreement in any manner nor shall the Authority be liable for the same in any manner.

11.13 Remedial work

11.13.1 Notwithstanding any previous test or certification, the Authority Engineer may instruct the Contractor to:

- (a) remove from the Site and replace any Plant or Materials which are not in accordance with the provisions of this Agreement;
- (b) remove and re-execute any work which is not in accordance with the provisions of this Agreement and the Specification and Standards; and
- (c) execute any work which is urgently required for the safety of the Railway Project, whether because of an accident, unforeseeable event or otherwise; provided that in case of any work which is required on account of a Force Majeure Event, the provisions of Clause 19.6 shall apply.

11.13.2 If the Contractor fails to comply with the instructions issued by the Authority Engineer under Clause 11.13.1, within the time specified in the Authority Engineer's notice or as mutually agreed, the Authority Engineer may advise the Authority to have the work executed by another agency. The cost so incurred by the Authority for undertaking such work shall, without prejudice to the rights of the Authority to recover Damages in accordance with the provisions of this Agreement, be recoverable from the Contractor and may be deducted by the Authority from any monies due to be paid to the Contractor.

11.14 Delays during construction

Without prejudice to the provisions of Clause 10.3.2, in the event the Contractor does not achieve any of the Project Milestones within the time period stipulated in Schedule - I or the Authority Engineer shall have reasonably determined that the rate of progress of Works is such that Completion of the Railway Project is not likely to be achieved by the end of the Scheduled Completion Date, it may notify the same to the Contractor, and the Contractor shall, within 15 (fifteen) days of such notice, by a communication inform the Authority Engineer in reasonable detail about the steps it proposes to take to expedite progress and the period within which it shall achieve the Project Completion Date.

11.15 Quality control records and Documents

The Contractor shall hand over to the Authority Engineer a copy of all its quality control records and documents before the Completion Certificate is issued pursuant to Clause 12.2.

11.16 Video recording

During the Construction Period, the Contractor shall provide to the Authority for every calendar quarter, a video recording, which will be compiled into a 3 (three) hour digital video disc or any substitute thereof, covering the status and progress of Works in that quarter. The video recording shall be provided to the Authority no later than 15 (fifteen) days after the close of each quarter after the Appointed Date.

11.17 Suspension of unsafe Construction Works

- 11.17.1 Upon recommendation of the Authority Engineer to this effect, or on its own volition in cases of emergency or urgency, the Authority may by notice require the Contractor to suspend forthwith the whole or any part of the Works if, in the reasonable opinion of the Authority Engineer or the Authority, as the case may be, such work threatens the safety of the Users and or other persons on or about the Railway Project.
- 11.17.2 The Contractor shall, pursuant to the notice under Clause 11.17.1, suspend the Works or any part thereof for such time and in such manner as may be specified by the Authority and thereupon carry out remedial measures to secure the safety of suspended works, the Users, other persons and vehicles on or about the Railway Project including pedestrians. The Contractor may by notice require the Authority Engineer to inspect such remedial measures forthwith and make a report to the Authority recommending whether or not the suspension hereunder may be revoked. Upon receiving the recommendations of the Authority Engineer, the Authority shall either revoke such suspension or instruct the Contractor to carry out such other and further remedial measures as may be necessary in the reasonable opinion of the Authority, and the procedure set forth in this Clause 11.17 shall be repeated until the suspension hereunder is revoked.
- 11.17.3 Subject to the provisions of Clause 19.6, all reasonable costs incurred for maintaining and protecting the Works or part thereof during the period of suspension (the “**Preservation Costs**”), shall be borne by the Contractor; provided that if the suspension has occurred as a result of any breach of this Agreement by the Authority, the Preservation Costs shall be borne by the Authority.
- 11.17.4 If suspension of Works is for reasons not attributable to the Contractor, the Authority Engineer shall determine any Time Extension to which the Contractor is reasonably entitled.

ARTICLE 12

COMPLETION CERTIFICATE

12.1 Tests on completion No later than 30 (thirty) days prior to the likely completion of the Crew Running Room Project or a part thereof, the Contractor shall prepare and submit to the Authority Engineer the documents required for seeking approval of the Chief General Manager in accordance with the provisions and notify the Authority Engineer of its intent to subject the Railway Project to Tests. After ensuring and procuring that the documents required to be submitted to the Chief General Manager meet the requirements of Applicable Laws, the Authority Engineer shall, in consultation with the Contractor, determine the date and time of each of the Tests, and inform the Authority who may designate its representative to witness the Tests. The Contractor shall provide such assistance as the Authority Engineer may reasonably require for conducting the Tests. For avoidance of doubts, the parties agree that in the event of the Contractor and the Authority Engineer failing to mutually agree on the dates for conducting the Tests, the Contractor shall fix the dates by giving not less than 10 (ten) days' notice to the Authority Engineer. Authority will carry out tests on completion within 30 days of receiving request from contractor. And if Authority Engineer fails to carry out test within 30 days, the Authority will pay damage to Contractor @ 0.02% of the payment pending for want of test per day.

12.1.2 All Tests shall be conducted in accordance with Schedule-J at the cost and expense of the Contractor; provided, however, that the trial shall be undertaken at the cost and expense of the Authority. The Authority Engineer shall observe, monitor and review the results of the Tests to determine compliance of the Project with Specifications and Standards and if it is reasonably anticipated or determined by the Authority Engineer during the course of any Test that the performance of the Railway Project, does not meet the Specifications and Standards, it shall have the right to suspend or delay such Test and require the Contractor to remedy and rectify any Defect or deficiency. Upon completion of each Test, the Authority Engineer shall provide to the Contractor and the Authority copies of all Test data including detailed Test results. For the avoidance of doubt, the Parties expressly agree that the Authority Engineer may require the Contractor to carry out or cause to be carried out additional Tests, in accordance with Good Industry Practice, for determining the compliance of the Railway Project thereof with the Specifications and Standards.

12.2 Provisional Certificate

12.2.1 Upon completion of Tests, the Authority Engineer shall satisfy itself that the Tests have been successful and the Railway Project is fit for Use. A list of outstanding items signed jointly by the Authority Engineer and the Contractor (called the "**Punch List**") shall be prepared in two parts. The part -1 showing the critical/safety items and the part-2 showing non-critical/non-safety items. The Authority Engineer may issue a Provisional Certificate to the Contractor and the Authority in the form set forth in Schedule-K (the "**Provisional Certificate**"), provided the items figuring in the Punch List of critical/safety items (part-1) have been fully completed/attended to. The items figuring in the Punch List (part-2) of



non-critical/non-safety should be completed by contractor in a time frame as stipulated in Clause 12.3.

- 12.2.2 Upon issuance of the “Provisional Certificate”, the Authority Engineer shall forward to the Authority (i) copies of all Test data including Test results, and (ii) the documents submitted by the Contractor for seeking approval of the Chief General manager in accordance with the provisions of the Contract.
- 12.2.3 The Contractor shall assist the Authority during inspection and tests to be conducted by the Chief general Manager/DFCCIL Representative for determining compliance of the Railway Project with Applicable Laws and the provisions of this Agreement.
- 12.2.4 The Defects Liability Period for the Railway Project shall commence from the date of issue of the Provisional Certificates.
- 12.2.5 The Parties hereto expressly agree that the Authority Engineer may also issue a “part Provisional Certificate” for part of the Railway Project ready for commissioning/opening subject to the provisions of Clauses 12.1 and 12.2 applying mutatis mutandis. The issuance of the part-provisional certificate will however not absolve the contractor in any manner of its obligations to complete the remaining part of Railway Project.
- 12.2.6 The risk of loss or damage to any Materials, Plant or Works in the Railway Project or part thereof, as the case may be, and the care and custody thereof shall pass from the Contractor to the Authority upon issuance of Provisional Certificate for the Railway Project or part thereof.

12.3 Completion of Part-2 Punch List items

All items figuring in the part-2 of Punch List shall be completed by the Contractor within 30 (Thirty) days of the date of issuance of the Provisional Certificate for that part and for any delay thereafter, other than for reasons solely attributable to the Authority or due to Force Majeure, the Authority shall be entitled to recover Damages from the Contractor to be calculated and paid for each day of delay until all items are completed, at the rate of 0.2% (zero point two per cent) of the cost of completing such items as estimated by the Authority Engineer. Subject to payment of such Damages, the Contractor shall be entitled to a further period not exceeding 60 (Sixty Days) days for completion of the part-2 Punch List items. For the avoidance of doubt, it is agreed that if completion of any item in the part-2 of Punch List is delayed for reasons attributable to the Authority or due to Force Majeure, the completion date thereof shall be determined by the Authority Engineer in accordance with Good Industry Practice, and such completion date shall be deemed to be the date of issue of the Provisional Certificate for the purposes of Damages, if any, payable for such item under this Clause 12.3.

12.4 Completion Certificate

- 12.4.1 Upon completion of all items in the Punch List (part-1 as well as part-2) and issuance of authorization by the Chief general manager and compliance of all observations pertaining to Contractor if any, the Authority Engineer shall issue forthwith to the Contractor and the Authority; a completion certificate substantially in the form set forth in Schedule-K (the “**Completion Certificate**”) separately in respect of each Provisional Certificate issued. For Avoidance of doubt, Completion Certificate may also be issued for part-commissioning of Project.
- 12.4.2 Upon receiving the Completion Certificate, the Contractor shall remove its equipment, materials, debris and temporary works from the Site, which are not required any more for the Project, within a period of 15 (fifteen) days thereof, failing which the Authority may remove or cause to be removed, such equipment, materials, debris and temporary works and recover from the Contractor an amount equal to 120% (one hundred and twenty per cent) of the actual cost of removal incurred by the Authority.

12.5 Rescheduling of Tests

If the Authority Engineer certifies to the Authority and the Contractor that it is unable to issue the Completion Certificate or Provisional Certificate, as the case may be, because of events or circumstances on account of which the Tests could not be held or had to be suspended, the Contractor shall be entitled to re-schedule the Tests and hold the same as soon as reasonably practicable.

12.6 Delayed authorization

In the event of delay in issuance of authorization by the Chief general manager beyond a period of 60 (sixty) days from the date of completion of all safety/critical items of punch list, the Contractor shall be entitled to interest for the period of delay at a rate equal to 3% (three percent) above the Bank Rate on the payment due for integrated testing and commissioning as specified in Schedule-G.

**ARTICLE 13
CHANGE OF SCOPE**

13.1 Change of Scope

13.1.1 The Authority may, notwithstanding anything to the contrary contained in this Agreement, require the Contractor to make modifications or alterations to the Works (“**Change of Scope**”) before the issue of the Completion Certificate either by giving an instruction or by requesting the Contractor to submit a proposal for Change of Scope involving additional cost or reduction in cost. Any such Change of Scope shall be made and valued in accordance with the provisions of this Article 13.

13.1.2 Change of Scope shall mean:

- (a) change in specifications of any item of Works;
- (b) omission of any work from the Scope of the Project except under Clause 8.3.3; provided that, subject to Clause 13.5, the Authority shall not omit any work under this Clause in order to get it executed by any other entity; or
- (c) any additional work, Plant, Materials or services which are not included in the Scope of the Project, including any associated Tests on completion of construction.
- (d) Variation in the quantities of certain items (positive or negative) necessitated due to any change(s) in the L-Section/Alignment/ESPs of the Project with respect to those attached with this document

13.1.3 If the Contractor determines at any time that a Change of Scope will, if adopted, (i) accelerate completion, (ii) reduce the cost to the Authority of executing, maintaining or operating the Railway Project, (iii) improve the efficiency or value to the Authority of the completed Railway Project, or (iv) otherwise be of benefit to the Authority, it shall prepare a proposal with relevant details at its own cost. The Contractor shall submit such proposal, supported with the relevant details including the amount of reduction in the Contract Price, if any, to the Authority to consider such Change of Scope. The Authority shall, within 15 (fifteen) days of receipt of such proposal, either accept such Change of Scope with modifications, if any, and initiate proceedings therefore in accordance with this Article 13 or reject the proposal and inform the Contractor of its decision. In case Change of Scope is proposed by Authority Engineer to the contractor, the contractor shall, within 15 (fifteen) days of receipt of such proposal, either accept such Change of Scope with modifications, if any, and initiate proceedings therefore in accordance with Article 13 or inform the authority of its decision.

For the avoidance of doubt, the Parties agree that the Contractor shall not undertake any Change of Scope without a Change of Scope Order being issued by the Authority, save and except any Works necessary for meeting any Emergency.

13.2 Procedure for Change of Scope

- 13.2.1 In the event of the Authority determining that a Change of Scope is necessary, it may direct the Authority Engineer to issue to the Contractor a notice specifying in reasonable detail the works and services contemplated thereunder (the “**Change of Scope Notice**”).
- 13.2.2 Upon receipt of a Change of Scope Notice from Authority Engineer, the Contractor shall, with due diligence, provide to the Authority Engineer such information as is necessary, together with preliminary documentation in support of:
- (a) the impact of the Change of Scope on the Project Completion Schedule, if the works or services are required to be carried out during the Construction Period; and
 - (b) the options for implementing the proposed Change of Scope and the effect, if any, each such option would have on the costs and time thereof; including the following details:
 - (i) breakup of the quantities, unit rates and cost for different items of work;
 - (ii) proposed design for the Change of Scope; and
 - (iii) proposed modifications, if any, to the Project Completion Schedule of the Railway Project.

For the avoidance of doubt, the Parties expressly agree that, subject to the provisions of Clause 13.4.2, the Contract Price shall be increased or decreased, as the case may be, on account of Change of Scope.

- 13.2.3 The Contractor’s quotation of rates/costs for the Change of Scope shall be determined on the following principles:
- (A) The rate for various items to be executed through change of scope order shall be estimated on the basis of analysis of rates (AOR) of Zonal Railway for item other than building works and as per CPWD’s AOR for building works and by applying the prevailing market rates of various input construction materials, labour, machinery and T & P.
 - (B) In case AOR of any items is not available in Zonal Railway’s AOR] then such rates shall be determined as per prevailing market rates in accordance with Good Industry Practice by the Authority Engineer.
- 13.2.4 Upon reaching an agreement, the Authority shall issue an order (the “**Change of Scope Order**”) requiring the Contractor to proceed with the performance thereof. In the event that the Parties are unable to agree, the Authority may:
- (a) issue a Change of Scope Order requiring the Contractor to proceed with the performance thereof at the rates and conditions approved by the Authority till the matter is resolved in accordance with Article 24; or
 - (b) proceed in accordance with Clause 13.5.

13.2.5 The provisions of this Agreement, insofar as they relate to Works and Tests, shall apply *mutatis mutandis* to the works undertaken by the Contractor under this Article 13.

13.2.6 In case of BOQ items, the change of scope shall be considered on the basis of expenditure incurred against the BOQ work. Increase of expenditure up to 25% shall not be considered as change of scope. Beyond 25%, the procedure for determining the change of scope for BOQ items shall be same as described in para 13.2.3 and 13.2.4.above.

13.3 Payment for Change of Scope

Payment for Change of Scope shall be made in accordance with the payment schedule specified in the Change of Scope Order.

13.4 Restrictions on Change of Scope

13.4.1 No Change of Scope shall be executed unless the Authority has issued the Change of Scope Order save and except any Works necessary for meeting any Emergency.

13.4.2 Unless the Parties mutually agree to the contrary, the total value of all Change of Scope Orders shall not exceed 25% (twenty five per cent) of the Contract Price.

13.4.3 Notwithstanding anything to the contrary in this Article 13, no change arising from any default of the Contractor in the performance of its obligations under this Agreement shall be deemed to be Change of Scope, and shall not result in any adjustment of the Contract Price or the Project Completion Schedule.

13.5 Power of the Authority to undertake works

13.5.1 In the event the Parties are unable to agree to the proposed Change of Scope Orders in accordance with Clause 13.2, the Authority may, after giving notice to the Contractor and considering its reply thereto, award such works or services to any person on the basis of open competitive bidding from amongst bidders who are pre-qualified for undertaking the additional work; provided that the Contractor shall have the option of matching the first ranked bid in terms of the selection criteria, subject to payment of 2% (two per cent) of the bid amount to the Authority[§], and thereupon securing the award of such works or services. For the avoidance of doubt, it is agreed that the Contractor shall be entitled to exercise such option only if it has participated in the bidding process and its bid does not exceed the first ranked bid by more than 10% (ten percent) thereof. It is also agreed that the Contractor shall provide assistance and cooperation to the person who undertakes the works or services hereunder, but shall not be responsible for rectification of any Defects and/or maintenance of works carried out by other agencies.

[§] The Authority shall transfer 75% (seventy five percent) of the amount so received to the first ranked bidder whose bid shall have been matched by the Contractor.

13.5.2 The works undertaken in accordance with this Clause 13.5 shall conform to the Specifications and Standards and shall be carried out in a manner that it should not cause any disruption to the Project and also minimize adverse effect to main contractor. The provisions of this Agreement, insofar as they relate to Works and Tests, shall apply mutatis mutandis to the works carried out under this Clause 13.5.



ARTICLE 14
TRAFFIC REGULATION

14.1 Traffic regulation by the Contractor

- 14.1.1 The Contractor shall take all the required measures and make arrangements for the safety of any persons and vehicles on or about the Site during the construction of the Railway Project or a Section thereof in accordance with Good Industry Practice, and Applicable Laws. It shall provide, erect and maintain all such barricades, signs, markings, flags, and lights as may be required by Good Industry Practice for the safety of the traffic using any public roads or access along or across the Section under construction.
- 14.1.2 All works shall be carried out in a manner creating least interference to traffic passing along or across the Railway Project or a Section thereof. The Contractor shall ensure that proper passage is provided for the traffic. Where it is not possible or safe to allow traffic on the existing road or passage, a temporary diversion of proper specifications shall be constructed by the Contractor at its own cost. The Contractor shall take prior approval of the Authority Engineer for any proposed arrangement for traffic regulation during Construction, which approval shall not be unreasonably withheld.
- 14.1.3 In the event any construction work is required to be executed in close proximity of an existing operating system of Railways, the Contractor shall make arrangements for the safety of such system in accordance with the provisions of the 'Compendium of Instructions on Safety at work Sites' issued by the Authority and Good Industry Practice.

ARTICLE 15

DEFECTS LIABILITY

15.1 Defects Liability Period

15.1.1 The Contractor shall be responsible for all the Defects and deficiencies, except usual wear and tear in the Railway Project or any part thereof, till the expiry of a period of 2 (two) years commencing from the date of Provisional Certificate or expiry of a period 18 (eighteen) months from the date of Completion Certificate, whichever is later (the “**Defects Liability Period**”).

[15.1.2-Without prejudice to the provisions of Clause 15.1.1, the Defects Liability Period for and in respect of any Structure or Important Bridge specified in Schedule B, ~~or interlocking and telecom switching equipment comprising a new technology~~ shall be deemed to be extended by a further period of 2 (two) year after the expiry of the Defects Liability Period specified in Clause 15.1.1.]Defect Liability Period shall also cover the extensions covered under clause 15.6]

~~[15.1.3 Without prejudice to the provisions of Clause 15.1.1, the Contractor shall be responsible for making arrangement for signing of agreement for AMC of SCADA as per clause 3.9 of Annexure I (Schedule B) between OEM/Approved SCADA vendor and concerned Railway/Division 6 months prior to defects liability period as defined in 15.1.1. In the event that the Contractor fails to make above Arrangement, the Authority shall be entitled to remedy the defects and deficiency of the Contractor in Accordance with the clause 15.4 or may extend the Defects Liability Period in accordance with clause 15.6.1].~~

~~[15.1.4 Without prejudice to the provisions of Clause 15.1.1, the Contractor shall be responsible for making arrangement for signing of agreement for AMC of EI system /Axle Counters/ Automatic Train protection system between OEM/Approved vendor and concerned Railway/Division 6 months prior to defects liability period as defined in 15.1.1. for duaration of Defect liability period including extended defect liability period. In the event that the Contractor fails to make above Arrangement, the Authority shall be entitled to remedy the defects and deficiency of the Contractor in Accordance with the clause 15.4 or may extend the Defects Liability Period in accordance with clause 15.6.1].~~

15.2 Remedy and rectification of Defects and deficiencies

15.2.1 Without prejudice to the provisions of Clause 15.2.2, the Contractor shall repair or rectify all Defects and deficiencies observed by the Authority Engineer during the Defects Liability Period within a period of 15 (fifteen) days from the date of notice issued by the Authority Engineer, or within such reasonable period as may be determined by the Authority Engineer at the request of the Contractor, in accordance with Good Industry Practice. For the purpose of this clause, the time period of 15 days shall be applicable only to those Defects and Deficiencies which are not affecting train operations of safety. For any defect noticed affecting train operation of train safety, the Contractor shall arrange to rectify it within such reasonable period as may be determined by the Authority Engineer. If the Contractor is not able to rectify

any fault as decided by the Authority Engineer, the Authority will be at full liberty to make its own efforts to get such defects rectified at Contractor's cost.

15.2.2 During a period of 2 (two) months from the date of issuance of Completion Certificate, the Contractor shall retain sufficient staff and spares at Project for procuring prompt replacement, installation or re-installation of any defective parts.

15.3 Cost of remedying Defects

For the avoidance of doubt, any repair or rectification undertaken in accordance with the provisions of Clause 15.2, including any additional tests, shall be carried out by the Contractor at its own risk and cost, to the extent that such rectification or repair is attributable to:

- (a) the design of the Project;
- (b) Works, Plant, Materials or workmanship not being in accordance with this Agreement and the Specifications and Standards;
- (c) improper maintenance during construction of the Railway Project by the Contractor; or
- (d) failure by the Contractor to comply with any other obligation under this Agreement.

15.4 Contractor's failure to rectify Defects

In the event that the Contractor fails to repair or rectify such Defect or deficiency within the period specified in Clause 15.2, the Authority shall be entitled to get the same repaired, rectified or remedied at the Contractor's cost so as to make the Railway Project conform to the Specifications and Standards and the provisions of this Agreement. All costs consequent thereon shall, after due consultation with the Authority and the Contractor, be determined by the Authority Engineer. The cost so determined, and an amount equal to 20% (twenty percent) of such cost as Damages, shall be recoverable by the Authority from the Contractor and may be deducted by the Authority from any monies due to the Contractor.

15.5 Contractor to search cause

15.5.1 The Authority Engineer may instruct the Contractor to examine the cause of any Defect in the Works or part thereof before the expiry of the Defects Liability Period.

15.5.2 In the event any Defect identified under Clause 15.5.1 is attributable to the Contractor, the Contractor shall rectify such Defect within the period specified by the Authority Engineer, and shall bear the cost of the examination and rectification of such Defect.

15.5.3 In the event such Defect is not attributable to the Contractor, the Authority Engineer shall, after due consultation with the Authority and the Contractor, determine the costs incurred by the Contractor on such examination and notify the same to the Contractor, with a copy to the Authority, and the Contractor shall be entitled to payment of such costs by the Authority.

15.6. Extension of Defects Liability Period

15.6.1 The Defects Liability Period shall be deemed to be extended till the identified Defects under Clause 15.2 have been remedied.

15.6.2 Any Materials or Works with Defects identified under Clause 15.2 and replaced or repaired during the Defects Liability Period or the extended Defects Liability Period, as the case may be, would be further warranted for a period of twelve (12) months from the date of completion of such repair or replacement.

15.6.3 The Contractor shall upon termination or expiry of this Agreement or upon expiry of the Defects Liability Period, assign any outstanding benefit in respect of any subcontract or any warranty, to the Authority or to such other person as the Authority may direct.

ARTICLE 16

AUTHORITY ENGINEER

16.1 Appointment of the Authority Engineer

16.1.1 The Authority shall appoint a DFCCIL engineer/Manager to be the engineer under this Agreement (the “**Authority Engineer**”).

16.1.2 The appointment of the Authority Engineer shall be made no later than 30 (Thirty) days from the date of this Agreement. The Authority shall notify the appointment or replacement of the Authority Engineer to the Contractor.

16.1.3 The staff of the Authority Engineer shall include suitably qualified engineers and other professionals who are competent to assist the Authority Engineer to carry out its duties.

16.2 Duties and functions of the Authority Engineer

16.2.1 The Authority Engineer shall perform its duties and discharge its functions in accordance with the provisions of this Agreement, and substantially in accordance with the duties and responsibilities set forth in Annex 1 of Schedule L, but subject to obtaining prior written approval of the Authority before determining:

- (a) any Time Extension;
- (b) any additional cost to be paid by the Authority to the Contractor;
- (c) the Termination Payment;
- (d) providing Power Block or Traffic Block or necessary disconnections to the Contractor;
- (e) approval of signaling & interlocking plan and route control chart; and alterations in ESP if essentially required;
- (f) ~~approval of disconnections for modification of signaling and telecom works,~~
~~or~~
- (g) any other matter which is not specified in (a) to (f) above and which creates an obligation or liability on either Party for a sum exceeding Rs.5,000,000 (Rupees fifty lakh).

16.2.2 No decision or communication of the Authority Engineer shall be effective or valid unless it is accompanied by an attested true copy of the approval of the Authority for and in respect of any matter specified in Clause 16.2.1.

16.2.3 The Authority Engineer shall submit regular periodic reports, at least once every month, to the Authority in respect of its duties and functions assigned to him for the project. Such reports shall be submitted by the Authority Engineer within 10 (ten) days of the beginning of every month.



16.2.4 A true copy of all communications sent by the Authority to the Authority Engineer and by the Authority Engineer to the Authority shall be sent forthwith by the Authority Engineer to the Contractor.

16.2.5 A true copy of all communications sent by the Authority Engineer to the Contractor and by the Contractor to the Authority Engineer shall be sent forthwith by the Authority Engineer to the Authority.

16.3 Authorized signatories

The Authority Engineer will designate and notify to the Contractor up to 2 (two) persons under him to sign for and on behalf of the Authority Engineer, and any communication or document required to be signed by the Authority Engineer shall be valid and effective only if signed by any of the designated persons; provided that the Authority Engineer may, by notice in writing, substitute any of the designated persons by any of its employees.

16.4 Instructions of the Authority Engineer

16.4.1 The Authority Engineer may issue to the Contractor instructions for remedying any Defect. The Contractor shall take such instructions from the Authority Engineer only.

16.4.2 The instructions issued by the Authority Engineer shall be in writing. However, if the Authority Engineer issues any oral instructions to the Contractor, it shall confirm in writing the oral instructions within 2 (two) working days of issuing them.

16.4.3 In case the Contractor does not receive the confirmation of the oral instructions within the time specified in Clause 16.4.2, the Contractor shall seek the written confirmation of the oral instructions from the Authority Engineer and shall obtain acknowledgement from the Authority Engineer of the communication seeking written confirmation. In case of failure of the Authority Engineer to reply to the Contractor within 2 (two) days of the receipt of the communication from the Contractor, the Contractor may not carry out the instruction.

16.5 Determination by the Authority Engineer

16.5.1 The Authority Engineer shall consult with each Party in an endeavor to reach agreement wherever this Agreement provides for the determination of any matter by the Authority Engineer. If such agreement is not achieved, the Authority Engineer shall make a fair determination in accordance with this Agreement having due regard to all relevant circumstances. The Authority Engineer shall give notice to both the Parties of each such agreement or determination, with supporting particulars.

16.5.2 Each Party shall give effect to each agreement or determination made by the Authority Engineer in accordance with the provisions of this Agreement. Provided, however, that if any Party disputes any instruction, decision, direction or determination of the Authority Engineer, the Dispute shall be resolved in accordance with the Dispute Resolution Procedure as per article 24.

16.6 Remuneration of the Authority Engineer

The remuneration, cost and expenses of the Authority Engineer shall be borne by the Authority.

16.7 Replacement of the Authority Engineer

16.7.1 The Authority may, in its discretion, replace the Authority Engineer at any time, but only upon appointment of another Authority Engineer in accordance with Clause 16.1.

16.7.2 If the Contractor has reasons to believe that the Authority Engineer is not discharging its duties and functions in accordance with the provisions of this Agreement, it may make a written representation to the Authority and seek replacement of the Authority Engineer. Upon receipt of such representation, the Authority shall hold a tripartite meeting with the Contractor and Authority Engineer and make best efforts for an amicable resolution of the Dispute. After due consideration, The Authority will decide about the replacement of Authority Engineer or otherwise. However, if Contractor is not satisfied with decision of Authority, the Dispute shall be resolved in accordance with Depute Resolution Procedure as per article 24. In the event that the Authority Engineer is to be replaced, the Authority shall appoint forthwith another Authority Engineer in accordance with Clause 16.1.

16.8 Interim Arrangement

In the event that the Authority has not appointed an Authority Engineer, or the Authority Engineer so appointed has relinquished its functions, the Authority may, in the interim, designate and authorize any person to discharge the functions of the Authority Engineer in accordance with the provisions of this Agreement, save and except that such person shall not exercise any functions relating to review, comment, approval or inspection as specified in this Agreement for and in respect of the Authority Engineer, and such functions shall be discharged as and when an Authority Engineer is appointed in accordance with the provisions of this Agreement. Provided, however, that nothing contained in this Clause 16.8 shall in any manner restrict the rights of the Authority to enforce compliance of the provisions of this Agreement.

Part IV
Financial Covenants



ARTICLE 17

PAYMENTS

17.1 Contract Price

- 17.1.1 The Authority shall make payments to the Contractor for the Works on the basis of the lump sum price and BOQ (Bill of quantities) as per specific schedules, accepted by the Authority in consideration of the obligations specified in this Agreement for an amount of Rs 315248573/- , which shall be subject to adjustments in accordance with the provisions of this Agreement. The Parties further agree that save and except as provided in this Agreement, the Contract Price shall be valid and effective until issue of Completion Certificate.
- 17.1.2 The Contract Price includes all duties, taxes, royalty, and fees that may be levied in accordance with the laws and regulations in force as on the Base Date on the Contractor's equipment, Plant, Materials and supplies acquired for the purpose of this Agreement and on the on the Works undertaken under this Agreement. Nothing in this Agreement shall relieve the Contractor from its responsibility to pay any tax including any tax that may be levied in India on profits made by it in respect of this Agreement.
- 17.1.3 The Contract Price shall not be adjusted for any change in duties, taxes etc. specified in Clause 17.1.2 above, save and except as specified in Clauses 17.8 and 17.13.
- 17.1.4 The Contract Price shall not be adjusted to take account of any unforeseen difficulties or costs, unless otherwise provided for in this Agreement.
- 17.1.5 Unless otherwise specified in this Agreement, the Contract Price covers all the Contractor's obligations for the Works under this Agreement and all things necessary for the Construction thereof and for the rectification of any Defects in the Railway Project.
- 17.1.6 All payments under this Agreement shall be made in Indian Rupees.

17.2 Advance Payment (Applicable)

- 17.2.1 Upon receiving request from Contractor, the Authority shall make an advance payment (the "**Advance Payment**"), up to **15% (fifteen percent)** of the Contract Price, for mobilization expenses and for acquisition of equipment, which shall carry simple interest at the rate of Bank Rate plus 5% per annum and shall be made in two instalments of up to maximum 7.5% (Seven and half per cent) of the contract price each.
- 17.2.2 The Contractor may apply to the Authority for the first instalment of the Advance Payment at any time after the Appointed Date, along with an irrevocable and unconditional guarantee from a Bank for an amount equivalent to 110% (one hundred

and ten per cent) of such instalment, substantially in the form provided at Annex-III of Schedule-F, to remain effective till the complete and full repayment thereof.

- 17.2.3 At any time, after 60 (sixty) days from the Appointed Date, the Contractor may apply to the Authority for the second instalment of the Advance Payment along with an irrevocable and unconditional guarantee from a Bank for an amount equivalent to 110% (one hundred and ten per cent) of such instalment, substantially in the form provided at Annex-III of Schedule-F, to remain effective till the complete and full repayment thereof along with proof of utilization of 1st instalment.
- 17.2.4 The instalments of Advance Payment shall generally be paid by the Authority to the Contractor within 15 (fifteen) days of the receipt of its respective requests in accordance with the provisions of this Clause 17.2.
- 17.2.5 The Advance Payment shall be recovered through proportionate deductions to be made in the Interim Payments Certificates issued in accordance with the provisions of Clause 17.5.2. Deductions of Advance Payment shall commence from the Interim Payment Certificate in which the cumulative interim payments certified shall have reached 50% (fifty per cent) of the Contract Price. The total amount recovered in each Interim Payment Certificate shall be equal to 30% (thirty per cent) of the amount of interim payment due and payable under such Interim Payment Certificate, and interest on the amount being recovered to be calculated from the date of disbursement of the Advance Payment to the date of recovery until the entire Advance Payment together with interest is recovered. For the avoidance of doubt, the Parties agree that in the event the total payment specified in any Interim Payment Certificate exceeds the limit of 50% (fifty per cent) of the Contract Price, the proportionate of recovery hereunder shall be restricted to the amount exceeding 50% (fifty per cent) of the Contract Price. By way of illustration, the Parties agree that if the first recovery of say, Rupees 'x' is made after 20 (twenty) months from the date of 1st (first) instalment of the Advance Payment, the interest will be recovered on Rupees 'x' for a period of 20 (twenty) months; and when the next recovery is made in the following month for say, Rupees 'y', interest on Rupees 'y' will be computed for a period of 21 (twenty one) months. The Parties further agree that no payments in excess of 90% (ninety per cent) of the Contract Price shall be released until the Advance Payment, including interest thereon, has been fully recovered.
- 17.2.6 If the Advance Payment has not been fully repaid prior to Termination under Clause 19.7 or Article 21, as the case may be, the whole of the balance then outstanding shall immediately become due and payable by the Contractor to the Authority. In the event of Termination due to Contractor's Default, the Advance Payment shall be deemed to carry RBI Bank rate + 5% simple interest from the date of Advance Payment to the date of recovery by encashment of bank guarantee for the Advance Payment. For the avoidance of doubt, the aforesaid interest shall be payable on each instalment of the Advance Payment, regardless of whether the instalment or any part thereof has been repaid to the Authority prior to Termination.

17.3 Procedure for estimating the payment for the Works

- 17.3.1 The Authority shall make interim payments to the Contractor, as certified by the Authority Engineer on completion of a Stage, for a length, number or area as

specified, and valued in accordance with the proportion of the Contract Price assigned to each item and its stage and payment procedure in Schedule-G.

17.3.2 The Contractor shall base its claim for interim payment for the stages completed till the end of the month for which the payment is claimed, valued in accordance with Clause 17.3.1, supported with necessary particulars and documents in accordance with this Agreement.

17.3.3 Any reduction in the Contract Price arising out of Change of Scope or the Works withdrawn under Clause 8.3, as the case may be, shall not affect the amounts payable for the items or stage payments thereof which are not affected by such Change of Scope or withdrawal. The Parties further agree that the adjustments arising out of the aforesaid modifications shall be carried out in a manner that the impact of such modifications is restricted to the said Change of Scope or withdrawal, as the case may be, and does not alter the payments due for and in respect of items or stage payments which do not form part of such Change of Scope or withdrawal.

17.4 Stage Payment Statement for Works

The Contractor shall submit a statement (the “**Stage Payment Statement**”), in 3 copies, by the 7th (seventh) day of a month to the Authority Engineer in the form set forth in Schedule-M, showing the amount calculated in accordance with Clause 17.3 to which the Contractor considers itself entitled for the completed stage(s) of Works. The Stage Payment Statement shall be accompanied with the progress reports and any other supporting documents. The Contractor shall not submit any claim for payment of incomplete stages of work. In the event that there is no claim for a month in accordance with the provisions of this Clause 17.4, the Contractor shall submit a nil claim to the Authority Engineer.

17.5 Stage Payment for Works

17.5.1 Within 10 (ten) days of receipt of the Stage Payment Statement from the Contractor pursuant to Clause 17.4, the Authority Engineer shall broadly determine the amount due to the Contractor and recommend the release of 80 (eighty) percent of the amount so determined as part payment against the Stage Payment Statement, pending issue of the Interim Payment Certificate (IPC) by the Authority Engineer. Within 5 (five) days of the receipt of recommendation of the Authority Engineer as above, the Authority shall make electronic payment directly to the Contractor’s bank account.

17.5.2 Within 20 (twenty) days of the receipt of the Stage Payment Statement referred to in Clause 17.4, the Authority Engineer shall determine and shall deliver to the Authority and the Contractor an IPC certifying the amount due and payable to the Contractor, after adjusting the payments already released to the Contractor against the said statement. For the avoidance of doubt, the Parties agree that the IPC shall specify all

the amounts that have been deducted from the Stage Payment Statement and the reasons therefor.

- 17.5.3 In cases where there is a difference of opinion as to the value of any stage, the opinion of the Authority Engineer shall prevail and interim payments shall be made to the Contractor on this basis; provided that the foregoing shall be without prejudice to the Contractor's right to raise a Dispute.
- 17.5.4 The Authority Engineer may, for reasons to be recorded, withhold from payment:
- (a) the estimated value of work or obligation that the Contractor has failed to perform in accordance with this Agreement and in respect of which the Authority Engineer had notified the Contractor; and
 - (b) the estimated cost of rectification of any Works which have not been constructed in accordance with this Agreement.
- 17.5.5 Payment by the Authority shall not be deemed to indicate the Authority acceptance, approval, consent or satisfaction with the work done.
- 17.5.6 In the event the amounts released by the Authority under Clause 17.5.1 exceed the amount finally determined by the Authority Engineer pursuant to Clauses 17.5.2 to 17.5.4, the difference thereof shall be accounted for in the next IPC.
- 17.5.7. For the scope of work covered on BOQ basis, the payment shall be made on the basis of actual measurement depending on the progress of work. All other conditions relevant for the BOQ payment shall remain same.

17.6 Payment of Damages

- 17.6.1 The Contractor as well as the Authority may claim Damages due and payable to it in accordance with the provisions of this Agreement.
- 17.6.2 The Authority Engineer shall verify and check the claim and issue the IPC within 20 (twenty) days of the receipt of the claim under Clause 17.6.1, after making adjustments in accordance with the provisions of this Agreement. The Authority shall pay to the Contractor the amount due under such IPC within a period of 30 (thirty) days from the date of the submission of the claim under this Clause 17.6. In the event of the failure of the Authority to make payment to the Contractor within the specified time, the Authority shall be liable to pay to the Contractor interest thereon and the provisions of Clause 17.7 shall apply *mutatis mutandis* thereto.

17.7 Time of payment and interest

- 17.7.1 The Authority shall pay to the Contractor any amount due under any payment certificate issued by the Authority Engineer in accordance with the provisions of this Article 17, or in accordance with any other clause of this Agreement as follows:
- (a) Payment shall be made no later than 30 (thirty) days from the date of submission of the Stage Payment Statement by the Contractor to the Authority Engineer for certification in accordance with the provisions of Clause 17.4 for an IPC; provided, however, that in the event the IPC is not issued by the Authority Engineer within the aforesaid period of 30 (thirty)

days, the Authority shall pay the amount shown in the Contractor's Stage Payment Statement and any discrepancy therein shall be adjusted in the next payment certificate; and

- (b) payment shall be made no later than 30 (thirty) days from the date of submission of the Final Payment Certificate for Works along with the discharge submitted to the Authority Engineer for certification in accordance with the provisions of Clause 17.12.

17.7.2 In the event of failure of the Authority to make payment to the Contractor within the time period specified in this Clause 17.7, the Authority shall be liable to pay to the Contractor interest at a rate equal to the Bank Rate plus 3%, calculated at quarterly rests, on all sums remaining unpaid from the date by which the same should have been paid, calculated in accordance with the provisions of Clause 17.7.1 (a) and (b) and till the date of actual payment.

17.8 Price adjustment for Works

17.8.1 The amounts payable to the Contractor for Works shall be adjusted in accordance with the provisions of this Clause 17.8.

17.8.2 Subject to the provisions of Clause 17.8.3, the amounts payable to the Contractor for Works shall be adjusted in the IPC issued by the Authority Engineer for the increase or decrease in the index cost of inputs for the works, by the addition or subtraction of the amounts determined by the formulae specified in Clause 17.8.4.

17.8.3 To the extent that any compensation or reimbursement for increase or decrease in costs to the Contractor is not covered by the provisions of this or other Clauses in this Agreement, the costs and prices payable under this Agreement shall be deemed to include the amounts required to cover the contingency of such other increase or decrease of costs and prices.

17.8.4 The Contract Price shall be adjusted for increase or decrease in rates and prices of labour, Materials, fuel and lubricants, equipment, Machinery, Plant and other Materials or inputs in accordance with the principles, procedures and formulae specified As per IR GCC 2022 with latest correction slip.

17.8.5 In case an IPC relates to a month which is within 3 (three) months from the Base Date, no price adjustment shall be applicable. The Price for this contract shall be Date of Opening Of Tender.

17.9 Restrictions on price adjustment

Price adjustment shall be due and payable only in respect of the stages of Works for which the Stage Payment Statement has been submitted by the Contractor (in case of BOQ items, statement of the quantum of work done on the date of recording the measurement submitted by the contractor) no later than 30 (thirty) days from the date of the applicable Project Milestone or the Scheduled Completion Date, as the case may be, including any Time Extension granted therefor in accordance with the provisions of this Agreement. For the avoidance of doubt, in the event of submission of any Stage Payment Statement after the period specified herein, price adjustment shall be applicable only until the date of the respective Project Milestone or the Scheduled Completion Date, as the case may be.

17.10 Final Payment Statement

17.10.1 Within 60 (sixty) days of receiving the Completion Certificate under Clause 12.4, the Contractor shall submit to the Authority Engineer six copies of a final payment statement (the “**Final Payment Statement**”), with supporting documents, in the form prescribed by the Authority Engineer:

- (a) the summary of Contractor’s Stage Payment Statements for Works as submitted in accordance with Clause 17.4;
- (b) the amounts received from the Authority against each claim; and
- (c) any further sums which the Contractor considers due to it from the Authority.

If the Authority Engineer disagrees with or cannot verify any part of the Final Payment Statement, the Contractor shall submit such further information as the Authority Engineer may reasonably require. The Authority Engineer shall deliver to the Authority:

- (i) an IPC for those parts of the Final Payment Statement which are not in dispute, along with a list of disputed items which shall then be settled in accordance with the provisions of Article 24; or
- (ii) a Final Payment Certificate in accordance with Clause 17.15, if there are no disputed items.

17.10.2 If the Authority Engineer does not prescribe the form referred to in Clause 17.10.1 within 7 (Seven) days of the date of issue of the Completion Certificate, the Contractor shall submit the statement in such form as it deems fit.

17.11 Discharge

Upon submission of the Final Payment Statement under Clause 17.10, the Contractor shall give to the Authority, with a copy to the Authority Engineer, a written discharge confirming that the total of the Final Payment Statement represents full and final settlement of all monies due to the Contractor in respect of this Agreement for all the Works arising out of this Agreement, except for any monies due to either Party on account of any Defect. Provided that such discharge shall become effective only after the payment due has been made in accordance with the Final Payment Certificate issued pursuant to Clause 17.12.

17.12 Final Payment Certificate

17.12.1 Within 30 (thirty) days after receipt of the Final Payment Statement under Clause 17.10, and the written discharge under Clause 17.11, and there being no disputed items of claim, the Authority Engineer shall deliver to the Authority, with a copy to the Contractor, a final payment certificate (the “**Final Payment Certificate**”) stating the amount which, in the opinion of the Authority Engineer, is finally due under this Agreement or otherwise. For the avoidance of doubt, before issuing the Final Payment Certificate, the Authority Engineer shall ascertain from the Authority all amounts previously paid by the Authority, all sums due to the Authority, and the balance, if any, due from the Authority to the Contractor or from the Contractor to the Authority, as the case may be.



17.12.2 The Authority shall, in accordance with the provisions of Clause 17.7, pay to the Contractor the amount which is specified as being finally due in the Final Payment Certificate.

17.13 Change in law

17.13.1 If as a result of Change in Law, the Contractor suffers any additional costs in the execution of the Works or in relation to the performance of its other obligations under this Agreement, the Contractor shall, within 15 (fifteen) days from the date it becomes reasonably aware of such addition in costs, notify the Authority with a copy to the Authority Engineer of such additional costs due to Change in Law.

17.13.2 If as a result of Change in Law, the Contractor benefits from any reduction in costs for the execution of this Agreement or in accordance with the provisions of this Agreement, either Party shall, within 15 (fifteen) days from the date it becomes reasonably aware of such reduction in costs, notify the other Party with a copy to the Authority Engineer of such reduction in costs due to Change in Law.

17.13.3 The Authority Engineer shall, within 15 (fifteen) days from the date of receipt of notice from the Contractor or the Authority, as the case may be, determine any addition or reduction to the Contract Price, as the case may be, due to the Change in Law.

17.14 Correction of Interim Payment Certificates

The Authority Engineer may by an Interim Payment Certificate make any correction or modification in any previous Interim Payment Certificate issued by the Authority Engineer.

17.15 Authority's claims

If the Authority considers itself to be entitled to any payment from the Contractor under any Clause of this Agreement, it shall give notice and particulars to the Contractor 20 (twenty) days before making the recovery from any amount due to the Contractor, and shall take into consideration the representation, if any, made by the Contractor in this behalf, before making such recovery.

17.16 Bonus for early completion (Not Applicable)

In the event that the Project Completion Date occurs prior to the Scheduled Completion Date, the Contractor shall be entitled to receive a payment of bonus equivalent to 0.03% (zero point zero three per cent) of the Contract Price for each day by which the Project Completion Date precedes the Scheduled Completion Date, but subject to a maximum of 5% (five per cent) of the Contract Price. Provided, however, that the payment of bonus, if any, shall be made only after the issue of the Completion Certificate. For the avoidance of doubt, the Parties agree that for the purpose of determining the bonus payable hereunder, the Contract Price shall always be deemed to be the amount specified in Clause 17.1.1, and shall exclude any revision thereof for any reason.

ARTICLE 18
INSURANCE

18.1 Insurance for Works

18.1.1 The Contractor shall effect and maintain at its own cost the insurances specified in Schedule-N and as per the requirements of Applicable Laws.

18.1.2 Subject to the provisions of Clause 19.6, the Contractor shall, in accordance with the provisions of this Agreement, be liable to bear the cost of any loss or damage that does not fall within the scope of this Article 18 or cannot be recovered from the insurers.

18.1.3 Subject to the exceptions specified in Clause 18.1.4 below, the Contractor shall fully indemnify, hold harmless and defend the Authority from and against any and all losses, damages, costs, charges and/or claims with respect to:

- (a) the death of or injury to any person; or
- (b) the loss of or damage to any property;

that may arise out of or in consequence of any breach by the Contractor of this Agreement during the execution of the Works or the remedying of any Defects therein.

18.1.4 Notwithstanding anything stated above in Clause 18.1.3, the Authority shall fully indemnify the Contractor from and against any and all losses, damages, costs, charges, proceedings and/or claims arising out of or with respect to

- (a) the use or occupation of land or any part thereof by the Authority;
- (b) the damage to property which is the unavoidable result of the execution and completion of the Works, or the remedying of any Defects therein, in accordance with this Agreement; and
- (c) the death of or injury to persons or loss of or damage to property resulting from any act or neglect of the Authority, its agents, servants or other contractors, not being employed by the Contractor.

Provided, that in the event of any injury or damage as a result of the contributory negligence of the Contractor, the Authority shall be liable to indemnify the Contractor from and against any and all losses, damages, costs, charges, proceedings and/or claims to the extent proportionate to the liability of the Authority, its servants or agents or other contractors not associated with the Contractor in such injury or damage.

18.1.5 Without prejudice to the obligations of the parties as specified under Clauses 18.1.3 and 18.1.4, the Contractor shall maintain or effect such third party insurances as may be required under Applicable Laws.



18.1.6 The Contractor shall provide to the Authority, within 30 days of the Appointed Date, evidence of professional liability insurance maintained by its Design Director and/or consultants to cover the risk of professional negligence in the design of Works. The professional liability cover shall be for a sum of not less than [3% (three per cent)] of the Contract Price and shall be maintained until the end of the Defects Liability Period.

18.2 Notice to the Authority

No later than 15 (fifteen) days after the date of this Agreement, the Contractor shall by notice furnish to the Authority, in reasonable detail, information in respect of the insurances that it proposes to effect and maintain in accordance with this Article 18. Within 15 (fifteen) days of receipt of such notice, the Authority may require the Contractor to effect and maintain such other insurances as may be necessary pursuant hereto, and in the event of any difference or disagreement relating to any such insurance, the Dispute Resolution Procedure shall apply.

18.3 Evidence of Insurance Cover

18.3.1 All insurances obtained by the Contractor in accordance with this Article 18 shall be maintained with insurers on terms consistent with Good Industry Practice. Within 10(ten) days of obtaining any insurance cover, the Contractor shall furnish to the Authority notarized true copies of the certificate(s) of insurance, copies of insurance policies and premia payment receipts in respect of such insurance, and no such insurance shall be cancelled, modified, or allowed to expire or lapse until the expiration of at least 45 (forty-five) days after notice of such proposed cancellation, modification or non-renewal has been delivered by the Contractor to the Authority. The Contractor shall act in accordance with the directions of the Authority.

18.3.2 The Contractor shall procure and ensure the adequacy of the insurances at all times in accordance with the provisions of this Agreement.

18.4 Remedy for failure to insure

If the Contractor shall fail to effect and keep in force all insurances for which it is responsible pursuant hereto, the Authority shall have the option to either keep in force any such insurances, and pay such premia and recover the costs thereof from the Contractor, or in the event of computation of a Termination Payment, treat an amount equal to the Insurance Cover as deemed to have been received by the Contractor. If either the Contractor or the Authority fails to comply with any condition of the the insurances effected under the contract, the Party so failing to comply shall indemnify the other Party against all direct losses and claims (including legal fees and expenses) arising from such failure.

18.5 Waiver of subrogation

All insurance policies in respect of the insurance obtained by the Contractor pursuant to this Article 18 shall include a waiver of any and all rights of subrogation or recovery of the insurers there under against, inter alia, the Authority, and its assigns, successors, undertakings and their subsidiaries, Affiliates, employees, insurers and underwriters, and of any right of the insurers to any set-off or counterclaim or any other deduction, whether by attachment or otherwise, in respect of any liability of any such person insured under any such policy or in any way connected with any loss, liability or obligation covered by such policies of insurance.

18.6 Contractor's waiver

The Contractor hereby further releases, assigns and waives any and all rights of subrogation or recovery against, inter alia, the Authority and its assigns, undertakings and their subsidiaries, Affiliates, employees, successors, insurers and underwriters, which the Contractor may otherwise have or acquire in or from or in any way connected with any loss, liability or obligation covered by policies of insurance maintained or required to be maintained by the Contractor pursuant to this Agreement (other than third party liability insurance policies) or because of deductible clauses in or inadequacy of limits of any such policies of insurance.

18.7 Cross liabilities

Any such insurance maintained or effected in pursuance of this Article 18 shall include a cross liability clause such that the insurance shall apply to the Contractor and to the Authority as separately insured.

18.8 Accident or injury to workmen

Notwithstanding anything contained in this Agreement, it is hereby expressly agreed between the Parties that the Authority 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 Sub-contractor, save and except as for death or injury resulting from any act, omission or default of the Authority, its agents or servants. The Contractor shall indemnify and keep indemnified the Authority from and against all such claims, proceedings, damages, costs, charges, and expenses whatsoever in respect of the above save and except for those acts, omissions or defaults for which the Authority shall be liable.

18.9 Insurance against accident to workmen

The Contractor shall effect and maintain during the Agreement such insurances as may be required to insure the Contractor's personnel and any other persons employed by it on the Railway Project from and against any liability incurred in pursuance of this Article 18 Provided that for the purposes of this Clause 18.9, the Contractor's personnel/any person employed by the Contractor shall include the Sub-contractor and its

personnel. Provided further that in respect of any persons employed by any Sub-contractor, the Contractor's obligations to insure as aforesaid under this Clause 18.9 shall be discharged if the Sub-contractor shall have insured against any liability in respect of such persons in such manner that the Authority is indemnified under the policy. The Contractor shall require such Sub-contractor to produce before the Authority, when required, such policy of insurance and the receipt for payment of the current premium within 10 (ten) days of such demand being made by the Authority.

18.10 Application of insurance proceeds

The proceeds from all insurance claims, except for life and injury, shall be applied for any necessary repair, reconstruction, reinstatement, replacement, improvement, delivery or installation of the Railway Project and the provisions of this Agreement in respect of construction of Works shall apply *mutatis mutandis* to the Works undertaken out of the proceeds of insurance.

18.11 Compliance with policy conditions

The Contractor expressly acknowledges and undertakes to fully indemnify the Authority from and against all losses and claims arising from the Contractor's failure to comply with conditions imposed by the insurance policies effected in accordance with this Agreement.

Part V
Force Majeure and Termination



ARTICLE 19

FORCE MAJEURE

19.1 Force Majeure

As used in this Agreement, the expression “**Force Majeure**” or “**Force Majeure Event**” shall mean occurrence in India of any or all of Non-Political Event, Indirect Political Event and Political Event, as defined in Clauses 19.2, 19.3 and 19.4 respectively, if it affects the performance by the Party claiming the benefit of Force Majeure (the “**Affected Party**”) of its obligations under this Agreement and which act or event (a) is beyond the reasonable control of the Affected Party, and (b) the Affected Party could not have prevented or overcome by exercise of due diligence and following Good Industry Practice, and (c) has Material Adverse Effect on the Affected Party.

19.2 Non-Political Event

A Non-Political Event shall mean one or more of the following acts or events:

- (a) act of God, epidemic, extremely adverse weather conditions, lightning, earthquake, landslide, cyclone, flood, volcanic eruption, chemical or radioactive contamination or ionizing radiation, fire or explosion (to the extent of contamination or radiation or fire or explosion originating from a source external to the Site);
- (b) strikes or boycotts (other than those involving the Contractor, Sub-contractors or their respective employees/representatives, or attributable to any act or omission of any of them) interrupting supplies and services to the Railway Project for a continuous period of 24 (twenty-four) hours and an aggregate period exceeding 10 (ten) days in an Accounting Year, and not being an Indirect Political Event set forth in Clause 19.3;
- (c) any failure or delay of a Sub-contractor but only to the extent caused by another Non-Political Event;
- (d) any judgement or order of any court of competent jurisdiction or statutory authority made against the Contractor in any proceedings for reasons other than (i) failure of the Contractor to comply with any Applicable Law or Applicable Permit, or (ii) on account of breach of any Applicable Law or Applicable Permit or of any contract, or (iii) enforcement of this Agreement, or (iv) exercise of any of its rights under this Agreement by the Authority; or (v) breach of its obligations by the Contractor under its sub-contracts;
- (e) the discovery of geological conditions, toxic contamination or archaeological remains on the Site that could not reasonably have been expected to be discovered through a site inspection; or

- (f) any event or circumstances of a nature analogous to any of the foregoing.

19.3 Indirect Political Event

An Indirect Political Event shall mean one or more of the following acts or events:

- (a) an act of war (whether declared or undeclared), invasion, armed conflict or act of foreign enemy, blockade, embargo, riot, insurrection, terrorist or military action, civil commotion or politically motivated sabotage;
- (b) industry-wide or State-wide strikes or industrial action for a continuous period of 24 (twenty-four) hours and exceeding an aggregate period of 10 (ten) days in an Accounting Year;
- (c) any civil commotion, boycott or political agitation which prevents construction of the Railway Project by the Contractor for an aggregate period exceeding 10 (ten) days in an Accounting Year;
- (d) failure of the Authority to permit the Contractor to continue with its Construction Works, with or without modifications, in the event of stoppage of such work after discovery of any geological or archaeological finds;
- (e) any failure or delay of a Sub-contractor to the extent caused by any Indirect Political Event;
- (f) any Indirect Political Event that causes a Non-Political Event; or
- (g) any event or circumstances of a nature analogous to any of the foregoing.

19.4 Political Event

A Political Event shall mean one or more of the following acts or events by or on account of any Government Instrumentality:

- (a) Change in Law, only if consequences thereof cannot be dealt with under and in accordance with the provisions of Clause 17.13;
- (b) compulsory acquisition in national interest or expropriation of any Project Assets or rights of the Contractor or of the Sub-Contractors;
- (c) unlawful or unauthorized or without jurisdiction revocation of, or refusal to renew or grant without valid cause, any clearance, license, permit, authorization, no objection certificate, consent, approval or exemption required by the Contractor or any of the Sub-contractors to perform their respective obligations under this Agreement; provided that such delay, modification, denial, refusal or revocation did not result from the Contractor's or any Sub-contractor's inability or



failure to comply with any condition relating to grant, maintenance or renewal of such clearance, license, authorization, no objection certificate, exemption, consent, approval or permit;

- (d) any failure or delay of a Sub-contractor but only to the extent caused by another Political Event; or
- (e) any event or circumstances of a nature analogous to any of the foregoing.

19.5 Duty to report Force Majeure Event

19.5.1 Upon occurrence of a Force Majeure Event, the Affected Party shall by notice report such occurrence to the other Party forthwith. Any notice pursuant hereto shall include full particulars of:

- (a) the nature and extent of each Force Majeure Event which is the subject of any claim for relief under this Article 19 with evidence in support thereof;
- (b) the estimated duration and the effect or probable effect which such Force Majeure Event is having or will have on the Affected Party's performance of its obligations under this Agreement;
- (c) the measures which the Affected Party is taking or proposes to take for alleviating the impact of such Force Majeure Event; and
- (d) any other information relevant to the Affected Party's claim.

19.5.2 The Affected Party shall not be entitled to any relief for or in respect of a Force Majeure Event unless it shall have notified the other Party of the occurrence of the Force Majeure Event as soon as reasonably practicable, and in any event no later than 10 (ten) days after the Affected Party knew, or ought reasonably to have known, of its occurrence, and shall have given particulars of the probable material effect that the Force Majeure Event is likely to have on the performance of its obligations under this Agreement.

19.5.3 For so long as the Affected Party continues to claim to be affected by such Force Majeure Event, it shall provide the other Party with regular (and not less than weekly) reports containing information as required by Clause 19.5.1, and such other information as the other Party may reasonably request the Affected Party to provide.

19.6 Effect of Force Majeure Event on the Agreement

19.6.1 Upon the occurrence of any Force Majeure

- (a) prior to the Appointed Date, both Parties shall bear their respective Force Majeure costs.

- (b) after the Appointed Date, the costs incurred and attributable to such event and directly relating to this Agreement (the “**Force Majeure costs**”) shall be allocated and paid as follows:
- (i) upon occurrence of a Non-Political Event, the Parties shall bear their respective Force Majeure costs and neither Party shall be required to pay to the other Party any costs thereof;
 - (ii) upon occurrence of an Indirect Political Event, all Force Majeure costs attributable to such Indirect Political Event, and not exceeding the Insurance Cover for such Indirect Political Event, shall be borne by the Contractor, and to the extent Force Majeure costs exceed such Insurance Cover, one half of such excess amount shall be reimbursed by the Authority to the Contractor for the Force Majeure events; and
 - (iii) upon occurrence of a Political Event, all Force Majeure costs attributable to such Political Event shall be reimbursed by the Authority to the Contractor.

For the avoidance of doubt, Force Majeure costs may include costs directly attributable to the Force Majeure Event, but shall not include debt repayment obligations, if any, of the Contractor.

19.6.2 Save and except as expressly provided in this Article 19, neither Party shall be liable in any manner whatsoever to the other Party in respect of any loss, damage, cost, expense, claims, demands and proceedings relating to or arising out of occurrence or existence of any Force Majeure Event or exercise of any right pursuant hereto.

19.6.3 Upon the occurrence of any Force Majeure Event during the Construction Period, the Project Completion Schedule for and in respect of the affected Works shall be extended on a day for day basis for such period as performance of the Contractor’s obligations is affected on account of the Force Majeure Event or its subsisting effects, as may be determined by the Authority Engineer.

19.6.4 Force Majeure costs for any event which results in any offsetting compensation being payable to the Contractor by or on behalf of its sub-contractors shall be reduced by such amounts that are payable to the Contractor by its Sub-contractors.

19.7 Termination Notice for Force Majeure Event

If a Force Majeure Event subsists for a period of 60 (sixty) days or more within a continuous period of 120 (one hundred and twenty) days, either Party may in its discretion terminate this Agreement by issuing a Termination Notice to the other Party without being liable in any manner whatsoever, save as provided in this Article 19, and upon issue of such Termination Notice, this Agreement shall, notwithstanding anything to the contrary contained herein, stand terminated forthwith; provided that before

issuing such Termination Notice, the Party intending to issue the Termination Notice shall inform the other Party of such intention and grant 15 (fifteen) days time to make a representation, and may after the expiry of such 15 (fifteen) days period, whether or not it is in receipt of such representation, in its sole discretion issue the Termination Notice.

19.8 Termination Payment for Force Majeure Event

19.8.1 In the event of this Agreement being terminated on account of a Non-Political Event, the Termination Payment shall be an amount equal to the sum payable under Clause 21.5.

19.8.2 If Termination is on account of an Indirect Political Event, the Termination Payment shall include:

- (a) any sums due and payable under Clause 21.5; and
- (b) the reasonable cost, as determined by the Authority Engineer, of the Plant and Materials procured by the Contractor and transferred to the Authority for use in Construction, only if such Plant and Materials are in conformity with the Specifications and Standards;

19.8.3 If Termination is on account of a Political Event, the Authority shall make a Termination Payment to the Contractor in an amount that would be payable under Clause 21.6.2 as if it were an Authority Default.

19.9 Dispute resolution

In the event that the Parties are unable to agree in good faith about the occurrence or existence of a Force Majeure Event, such Dispute shall be finally settled in accordance with the Dispute Resolution Procedure; provided that the burden of proof as to the occurrence or existence of such Force Majeure Event shall be upon the Party claiming relief and/or excuse on account of such Force Majeure Event.

19.10 Excuse from performance of obligations

If the Affected Party is rendered wholly or partially unable to perform its obligations under this Agreement because of a Force Majeure Event, it shall be excused from performance of such of its obligations to the extent it is unable to perform on account of such Force Majeure Event; provided that:

- (a) the suspension of performance shall be of no greater scope and of no longer duration than is reasonably required by the Force Majeure Event;
- (b) the Affected Party shall make all reasonable efforts to mitigate or limit damage to the other Party arising out of or as a result of the existence or occurrence of such Force Majeure Event and to cure the same with due diligence; and

- (c) when the Affected Party is able to resume performance of its obligations under this Agreement, it shall give to the other Party notice to that effect and shall promptly resume performance of its obligations hereunder.



ARTICLE 20

SUSPENSION OF CONTRACTOR'S RIGHTS

20.1 Suspension upon Contractor Default

Upon occurrence of a Contractor Default, the Authority shall be entitled, without prejudice to its other rights and remedies under this Agreement including its rights of Termination hereunder, to (a) suspend carrying out of the Works or any part thereof, and (b) carry out such Works itself or authorize any other person to exercise or perform the same on its behalf during such suspension (the “**Suspension**”). Suspension hereunder shall be effective forthwith upon issue of notice by the Authority to the Contractor and may extend up to a period not exceeding 90 (ninety) days from the date of issue of such notice.

20.2 Authority to act on behalf of Contractor

During the period of Suspension hereunder, all rights and liabilities vested in the Contractor in accordance with the provisions of this Agreement shall continue to vest in the Contractor and all things done or actions taken, including expenditure incurred by the Authority for discharging the obligations of the Contractor under and in accordance with this Agreement shall be deemed to have been done or taken for and on behalf of the Contractor and the Contractor undertakes to indemnify the Authority for all costs incurred during such period. The Contractor hereby licenses and sub-licenses respectively, the Authority or any other person authorized by it under Clause 20.1 to use during Suspension, all Intellectual Property belonging to or licensed to the Contractor with respect to the Railway Project and its design, engineering, construction and maintenance, and which is used or created by the Contractor in performing its obligations under the Agreement.

20.3 Revocation of Suspension

20.3.1 In the event that the Authority shall have rectified or removed the cause of Suspension within a period not exceeding 60 (sixty) days from the date of Suspension, it shall revoke the Suspension forthwith and restore all rights of the Contractor under this Agreement. For the avoidance of doubt, the Parties expressly agree that the Authority may, in its discretion, revoke the Suspension at any time, whether or not the cause of Suspension has been rectified or removed hereunder.

20.3.2 Upon the Contractor having cured the Contractor Default within a period not exceeding 60 (sixty) days from the date of Suspension, the Authority shall revoke the Suspension forthwith and restore all rights of the Contractor under this Agreement.

20.4 Termination

- 20.4.1 At any time during the period of Suspension under this Article 20, the Contractor may by notice require the Authority to revoke the Suspension and issue a Termination Notice. The Authority shall, within 15 (fifteen) days of receipt of such notice, terminate this Agreement under and in accordance with Article 21 as if it is a Contractor Default under Clause 21.1.
- 20.4.2 Notwithstanding anything to the contrary contained in this Agreement, in the event that Suspension is not revoked within 90 (ninety) days from the date of Suspension hereunder, the Agreement shall, upon expiry of the aforesaid period, be deemed to have been terminated by mutual agreement of the Parties and all the provisions of this Agreement shall apply, *mutatis mutandis*, to such Termination as if a Termination Notice had been issued by the Authority upon occurrence of a Contractor Default.

ARTICLE 21
TERMINATION

21.1 Termination for Contractor Default

21.1.1 Save as otherwise provided in this Agreement, in the event that any of the defaults specified below shall have occurred, and the Contractor fails to cure the default within the Cure Period set forth below, or where no Cure Period is specified, then within a Cure Period of 60 (sixty) days, the Contractor shall be deemed to be in default of this Agreement (the “**Contractor Default**”), unless the default has occurred as a result of any breach of this Agreement by the Authority or due to Force Majeure. The defaults referred to herein shall include:

- (a) The Contractor fails to provide, extend or replenish, as the case may be, the Performance Security in accordance with this Agreement;
- (b) subsequent to the replenishment or furnishing of fresh Performance Security in accordance with Clause 7.3, the Contractor fails to cure, within a Cure Period of 30 (thirty) days, the Contractor Default for which the whole or part of the Performance Security was appropriated;
- (c) the Contractor does not achieve the latest outstanding Project Milestone due in accordance with the provisions of Schedule-I, subject to any Time Extension, and continues to be in default for 45 (forty five) days;
- (d) the Contractor abandons or manifests intention to abandon the construction of the Railway Project without the prior written consent of the Authority;
- (e) the Contractor fails to proceed with the Works in accordance with the provisions of Clause 10.1 or stops Works for 30 (thirty) days without reflecting the same in the current programme and such stoppage has not been authorized by the Authority Engineer;
- (f) the Project Completion Date does not occur within the period specified in Schedule-I for the Scheduled Completion Date, or any extension thereof;
- (g) failure to complete the Punch List items within the periods stipulated therefor in Clause 12.3;
- (h) the Contractor fails to rectify any Defect, the non rectification of which shall have a Material Adverse Effect on the Project, within the time specified in this Agreement or as directed by the Authority Engineer;
- (i) the Contractor subcontracts the Works or any part thereof in violation of this Agreement or assigns any part of the Works without the prior approval of the Authority;
- (j) the Contractor creates any Encumbrance in breach of this Agreement;



- (k) an execution levied on any of the assets of the Contractor has caused a Material Adverse Effect ;
- (l) the Contractor is adjudged bankrupt or insolvent, or if a trustee or receiver is appointed for the Contractor or for the whole or material part of its assets that has a material bearing on the Project;
- (m) the Contractor has been, or is in the process of being liquidated, dissolved, wound-up, amalgamated or reconstituted in a manner that would cause, in the reasonable opinion of the Authority, a Material Adverse Effect;
- (n) a resolution for winding up of the Contractor is passed, or any petition for winding up of the Contractor is admitted by a court of competent jurisdiction and a provisional liquidator or receiver is appointed and such order has not been set aside within 90 (ninety) days of the date thereof or the Contractor is ordered to be wound up by a court except for the purpose of amalgamation or reconstruction; provided that, as part of such amalgamation or reconstruction, the entire property, assets and undertaking of the Contractor are transferred to the amalgamated or reconstructed entity and that the amalgamated or reconstructed entity has unconditionally assumed the obligations of the Contractor under this Agreement; and provided that:
 - (i) the amalgamated or reconstructed entity has the capability and experience necessary for the performance of its obligations under this Agreement; and
 - (ii) the amalgamated or reconstructed entity has the financial standing to perform its obligations under this Agreement and has a credit worthiness at least as good as that of the Contractor as at the Appointed Date;
- (o) any representation or warranty of the Contractor herein contained which is, as of the date hereof, found to be materially false or the Contractor is at any time hereafter found to be in breach thereof;
- (p) the Contractor submits to the Authority any statement, notice or other document, in written or electronic form, which has a material effect on the Authority's rights, obligations or interests and which is false in material particulars;
- (q) the Contractor has failed to fulfil any obligation, for which failure Termination has been specified in this Agreement;
- (r) the Contractor has failed to make any payment to the Authority within the period specified in this Agreement; or
- (s) the Contractor commits a default in complying with any other provision of this Agreement if such a default causes a Material Adverse Effect on the Project or on the Authority.

21.1.2 Without prejudice to any other rights or remedies which the Authority may have under this Agreement, upon occurrence of a Contractor Default, the

Authority shall be entitled to terminate this Agreement by issuing a Termination Notice to the Contractor; provided that before issuing the Termination Notice, the Authority shall by a notice inform the Contractor of its intention to issue such Termination Notice and grant 15 (fifteen) days to the Contractor to make a representation, and may after the expiry of such 15 (fifteen) days, whether or not it is in receipt of such representation, issue the Termination Notice.

21.1.3 After termination of this Agreement for Contractor Default, the Authority may complete the Works and/or procure its completion through any other entity. The Authority and such entity may, for this purpose, use any Materials, Plant and equipment, Contractor's documents and other design documents made by or on behalf of the Contractor.

21.2 Termination for Authority Default

21.2.1 In the event that any of the defaults specified below shall have occurred, and the Authority fails to cure such default within a Cure Period of 90 (ninety) days or such longer period as has been expressly provided in this Agreement, the Authority shall be deemed to be in default of this Agreement (the "**Authority Default**") unless the default has occurred as a result of any breach of this Agreement by the Contractor or due to Force Majeure. The defaults referred to herein shall include:

- (a) the Authority commits a material default in complying with any of the provisions of this Agreement and such default has a Material Adverse Effect on the Contractor;
- (b) the Authority has failed to make payment of any amount due and payable to the Contractor within the period specified in this Agreement;
- (c) the Authority has failed to provide, within a period of 180 (one hundred and eighty) days from the Appointed Date, the environmental clearances and forest clearances required for construction of the Railway Project;
- (d) the Authority repudiates this Agreement or otherwise takes any action that amounts to or manifests an irrevocable intention not to be bound by this Agreement; or
- (e) the Authority Engineer fails to issue the relevant Interim Payment Certificate within 60 (sixty) days after receiving a statement and supporting documents.

21.2.2 Without prejudice to any other right or remedy which the Contractor may have under this Agreement, upon occurrence of an Authority Default, the Contractor shall be entitled to terminate this Agreement by issuing a Termination Notice to the Authority; provided that before issuing the Termination Notice, the Contractor shall by a notice inform the Authority of its intention to issue the Termination Notice and grant 15 (fifteen) days to the Authority to make a representation, and may after the expiry of such 15

(fifteen) days, whether or not it is in receipt of such representation, issue the Termination Notice.

21.3 Right of Authority to Determine the Contract

Notwithstanding anything hereinabove, the Authority shall be entitled to determine and terminate the contract at any time should, in the Authority's opinion, the cessation of work becomes necessary owing to paucity of funds or from any other cause whatever, in which case it shall be treated as Authority Default and Termination Payment shall be made as per clause 21.6 below. Notice in writing from the Authority of such determination and the reasons therefor shall be conclusive evidence thereof. The termination shall take effect 30 (thirty) days from the date of notice hereunder.

21.4 Requirements after Termination

Upon Termination of this Agreement in accordance with the provisions of this Article 21, the Contractor shall comply with and conform to the following:

- (a) deliver to the Authority all Plant and Materials which shall have become the property of the Authority under this Article 21;
- (b) deliver all relevant records, reports, Intellectual Property and other licenses pertaining to the Works, other design documents and in case of Termination occurring after the Provisional Certificate has been issued, the “**as built**” Drawings for the Works;
- (c) transfer and/or deliver all Applicable Permits to the Authority to the extent permissible under Applicable Laws; and
- (d) vacate the Site within 15 (fifteen) days.

21.5 Valuation of Unpaid Works

21.5.1 Within a period of 45 (forty-five) days after Termination under Clause 21.1, 21.2 or 21.3, as the case may be, has taken effect, the Authority Engineer shall proceed in accordance with Clause 16.5 to determine as follows the valuation of unpaid Works (the “**Valuation of Unpaid Works**”):

- (a) value of the completed stage of the Works, less payments already made; and
- (b) reasonable value of the partially completed stages of works as on the date of Termination, only if such works conform with the Specifications and Standards.

and shall adjust from the sum thereof (i) any other amounts payable or recoverable, as the case may be, in accordance with the provisions of this Agreement; and (ii) all taxes due to be deducted at source.

21.5.2 The Valuation of Unpaid Works shall be communicated to the Authority, with a copy to the Contractor, within a period of 45 (forty five) days from the date of Termination.

21.6 Termination Payment

21.6.1 Upon Termination on account of Contractor Default under Clause 21.1, the Authority shall:

- (a) encash and appropriate the Performance Security and Retention Money and in the event the Contractor has failed to replenish or extend the Performance Security, claim the amount stipulated in Clause 7.1.1, as agreed pre-determined compensation to the Authority for any losses, delays and cost of completing the Works, if any;
- (b) encash and appropriate the bank guarantee, if any, to the extent of the outstanding Advance Payment and interest thereon; and
- (c) pay to the Contractor, by way of Termination Payment, an amount equivalent to the Valuation of Unpaid Works after adjusting any other sums payable or recoverable, as the case may be, in accordance with the provisions of this Agreement, and all taxes due to be deducted at source.

21.6.2 Upon Termination on account of an Authority Default under Clause 21.2 or under Clause 21.3, the Authority shall:

- (a) return the Performance Security and Retention Money forthwith;
- (b) encash and appropriate the bank guarantee, if any, to the extent of the outstanding Advance Payment, including interest thereon; and
- (c) pay to the Contractor, by way of Termination Payment, an amount equal to:
 - (i) Valuation of Unpaid Works;
 - (ii) the reasonable cost, as determined by the Authority Engineer, of the Plant and Materials procured by the Contractor and transferred to the Authority for its use, only if such Plant and Materials are in conformity with the Specifications and Standards;
 - (iii) the reasonable cost of temporary works, as determined by the Authority Engineer; and

shall adjust from the sum thereof (i) any other amounts payable or recoverable, as the case may be, in accordance with the provisions of this Agreement, and (ii) all taxes due to be deducted at source.

21.6.3 Termination Payment shall become due and payable to the Contractor within 30 (thirty) days of a demand being made by the Contractor to the Authority with the necessary particulars, after the Valuation of Unpaid Works has been communicated by the Authority Engineer, and in the event of any delay, the Authority shall pay interest at the Bank Rate plus 3% (three percent), calculated at quarterly rests, on the amount of Termination Payment remaining unpaid; provided that such delay shall not exceed 90 (ninety) days. For the avoidance of doubt, it is expressly agreed that Termination

Payment shall constitute full discharge by the Authority of its payment obligations in respect thereof hereunder.

21.6.4 The Contractor expressly agrees that Termination Payment under this Article 21 shall constitute a full and final settlement of all claims of the Contractor on account of Termination of this Agreement and that it shall not have any further right or claim under any law, treaty, convention, contract or otherwise.

21.7 Other rights and obligations of the Parties

Upon Termination for any reason whatsoever

- (a) property and ownership in all Materials, Plant and Works and the Railway Project shall, as between the Contractor and the Authority, vest in the Authority in whole, free from any and all Encumbrances; provided that the foregoing shall be without prejudice to Clause 21.6;
- (b) risk of loss or damage to any Materials, Plant or Works and the care and custody thereof shall pass from the Contractor to the Authority; and
- (c) the Authority shall be entitled to restrain the Contractor and any person claiming through or under the Agreement from entering upon the Site or any part of the Project except for taking possession of materials, stores, implements, construction plants and equipment of the Contractor, which have not been vested in the Authority in accordance with the provisions of this Agreement.

21.8 Survival of rights

Notwithstanding anything to the contrary contained in this Agreement any Termination pursuant to the provisions of this Agreement shall be without prejudice to the accrued rights of either Party including its right to claim and recover money damages, insurance proceeds, security deposits, and other rights and remedies, which it may have in law or Agreement. All rights and obligations of either Party under this Agreement, including Termination Payments, shall survive the Termination to the extent such survival is necessary for giving effect to such rights and obligations.

Part VI
Other Provisions



ARTICLE 22

ASSIGNMENT AND CHARGES

22.1 Restrictions on assignment and charges

This Agreement shall not be assigned by the Contractor to any person, save and except with the prior consent in writing of the Authority, which consent the Authority shall be entitled to decline without assigning any reason.

22.2 Hypothecation of Materials or Plant

Notwithstanding the provisions of Clause 22.1, the Contractor may pledge or hypothecate to its lenders, any Materials or Plant prior to their incorporation in the Works. Further, the Contractor may, by written notice to the Authority, assign its right to receive payments under this Agreement either absolutely or by way of charge, to any person providing financing to the Contractor in connection with the performance of the Contractor's obligations under this Agreement. The Contractor acknowledges that any such assignment by the Contractor shall not relieve the Contractor from any obligations, duty or responsibility under this Agreement. For the avoidance of doubt, all Materials and Plants shall, upon their incorporation into Works, be free from any and all Encumbrances without the Authority being required to make any payment to any person on account of any costs, compensation, expenses and charges for such Materials, Plants and Works.

ARTICLE 23

LIABILITY AND INDEMNITY

23.1 General indemnity

The Contractor will indemnify, defend, save and hold harmless the Authority and its officers, servants, agents, Government Instrumentalities and Government owned and/or controlled entities/enterprises, (the “**Authority Indemnified Persons**”) against any and all suits, proceedings, actions, demands and third party claims for any loss, damage, cost and expense of whatever kind and nature, whether arising out of any breach by the Contractor of any of its obligations under this Agreement or from any negligence under the Agreement, including any errors or deficiencies in the design documents, or tort or on any other ground whatsoever, except to the extent that any such suits, proceedings, actions, demands and claims have arisen due to any negligent act or omission, or breach or default of this Agreement on the part of the Authority Indemnified Persons.

23.2 Indemnity by the Contractor

23.2.1 Without limiting the generality of Clause 23.1, the Contractor shall fully indemnify, hold harmless and defend the Authority and the Authority Indemnified Persons from and against any and all loss and/or damages arising out of or with respect to:

- (a) failure of the Contractor to comply with Applicable Laws and Applicable Permits;
- (b) payment of taxes required to be made by the Contractor in respect of the income or other taxes of the Sub-contractors, suppliers and representatives; or
- (c) non-payment of amounts due as a result of Materials or services furnished to the Contractor or any of its Sub-contractors which are payable by the Contractor or any of its Sub-contractors.

23.2.2 Without limiting the generality of the provisions of this Article 23, the Contractor shall fully indemnify, hold harmless and defend the Authority Indemnified Persons from and against any and all suits, proceedings, actions, claims, demands, liabilities and damages which the Authority Indemnified Persons may hereafter suffer, or pay by reason of any demands, claims, suits or proceedings arising out of claims of infringement of any domestic or foreign patent rights, copyrights or other Intellectual Property, proprietary or confidentiality rights with respect to any materials, information, design or process used by the Contractor or by the Sub-contractors in performing the Contractor’s obligations or in any way incorporated in or related to the Project. If in any such suit, action, claim or proceedings, a temporary restraint order or preliminary injunction is granted, the Contractor shall make every reasonable effort, by giving a satisfactory bond or otherwise, to secure



the revocation or suspension of the injunction or restraint order. If, in any such suit, action, claim or proceedings, the Railway Project, or any part thereof or comprised therein, is held to constitute an infringement and its use is permanently enjoined, the Contractor shall promptly make every reasonable effort to secure for the Authority a license, at no cost to the Authority, authorizing continued use of the infringing work. If the Contractor is unable to secure such license within a reasonable time, the Contractor shall, at its own expense, and without impairing the Specifications and Standards, either replace the affected work, or part, or process thereof with non-infringing work or part or process, or modify the same so that it becomes non-infringing.

23.3 Notice and contest of claims

In the event that either Party receives a claim or demand from a third party in respect of which it is entitled to the benefit of an indemnity under this Agreement (the “**Indemnified Party**”) it shall notify the other Party (the “**Indemnifying Party**”) within 15 (fifteen) days of receipt of the claim or demand and shall not settle or pay the claim without the prior approval of the Indemnifying Party, which approval shall not be unreasonably withheld or delayed. In the event that the Indemnifying Party wishes to contest or dispute the claim or demand, it may conduct the proceedings in the name of the Indemnified Party, subject to the Indemnified Party being secured against any costs involved, to its reasonable satisfaction.

23.4 Defense of claims

23.4.1 The Indemnified Party shall have the right, but not the obligation, to contest, defend and litigate any claim, action, suit or proceeding by any third party alleged or asserted against such Party in respect of, resulting from, related to or arising out of any matter for which it is entitled to be indemnified hereunder, and reasonable costs and expenses thereof shall be indemnified by the Indemnifying Party. If the Indemnifying Party acknowledges in writing its obligation to indemnify the Indemnified Party in respect of loss to the full extent provided by this Agreement, the Indemnifying Party shall be entitled, at its option, to assume and control the defense of such claim, action, suit or proceeding, liabilities, payments and obligations at its expense and through the counsel of its choice; provided it gives prompt notice of its intention to do so to the Indemnified Party and reimburses the Indemnified Party for the reasonable cost and expenses incurred by the Indemnified Party prior to the assumption by the Indemnifying Party of such defense. The Indemnifying Party shall not be entitled to settle or compromise any claim, demand, action, suit or proceeding without the prior written consent of the Indemnified Party, unless the Indemnifying Party provides such security to the Indemnified Party as shall be reasonably required by the Indemnified Party to secure the loss to be indemnified hereunder to the extent so compromised or settled.

23.4.2 If the Indemnifying Party has exercised its rights under Clause 23.3, the Indemnified Party shall not be entitled to settle or compromise any claim, action, suit or proceeding without the prior written consent of the

Indemnifying Party (which consent shall not be unreasonably withheld or delayed).

23.4.3 If the Indemnifying Party exercises its rights under Clause 23.3, the Indemnified Party shall nevertheless have the right to employ its own counsel, and such counsel may participate in such action, but the fees and expenses of such counsel shall be at the expense of the Indemnified Party, when and as incurred, unless:

- (a) the employment of counsel by such party has been authorized in writing by the Indemnifying Party; or
- (b) the Indemnified Party shall have reasonably concluded that there may be a conflict of interest between the Indemnifying Party and the Indemnified Party in the conduct of the defense of such action; or
- (c) the Indemnifying Party shall not, in fact, have employed independent counsel reasonably satisfactory to the Indemnified Party, to assume the defense of such action and shall have been so notified by the Indemnified Party; or
- (d) the Indemnified Party shall have reasonably concluded and specifically notified the Indemnifying Party either:
 - (i) that there may be specific defenses available to it which are different from or additional to those available to the Indemnifying Party; or
 - (ii) that such claim, action, suit or proceeding involves or could have a material adverse effect upon it beyond the scope of this Agreement:

Provided that if Sub-clauses (b), (c) or (d) of this Clause 23.4.3 shall be applicable, the counsel for the Indemnified Party shall have the right to direct the defense of such claim, demand, action, suit or proceeding on behalf of the Indemnified Party, and the reasonable fees and disbursements of such counsel shall constitute legal or other expenses hereunder.

23.5 No consequential claims

Notwithstanding anything to the contrary contained in this Article 23, the indemnities herein provided shall not include any claim or recovery in respect of any cost, expense, loss or damage of an indirect, incidental or consequential nature, including loss of profit, except as expressly provided in this Agreement.

23.6 Survival on Termination

The provisions of this Article 23 shall survive Termination.



ARTICLE 24

DISPUTE RESOLUTION

24.1 Conciliation of Disputes

- 24.1.1 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 "Authority" 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 Authority Engineer. Authority shall, within 30 days after receipt of the Contractor's "Notice of Dispute", notify the name of conciliator(s) to the Contractor. In case Authority fails to fix Conciliator within 30 days, Contractor shall be free to approach Dispute Adjudication Board (DAB) for adjudication of Dispute.
- 24.1.2 The Conciliator(s) shall assist the parties to reach an amicable settlement in an independent and impartial manner within the terms of contract. If the parties reach agreement on a settlement of the dispute, they shall draw up and sign a written settlement agreement duly signed by Authority Engineer, Contractor and conciliator(s). When the settlement agreement is signed, it shall be final and binding on the parties. The conciliators shall be paid fee as fixed by Ministry of Railways time to time, which shall be shared equally by the parties.
- 24.1.3 The parties shall not initiate, during the conciliation proceedings, any reference to DAB or arbitral or judicial proceedings in respect of a dispute that is the subject matter of the conciliation proceedings.
- 24.1.4 The conciliation shall be carried out as per 'The Arbitration and Conciliation Act, 1996', with latest amendment of 2019 and the proceedings may be terminated as per Section 76 of the above Act.

24.2 Dispute Adjudication Board (DAB)

- 24.2.1 A dispute/s if not settled through conciliation, shall be referred to DAB. The DAB shall consist of a panel of three Retired Railway Officers not below senior administrative grade (SAG). The DAB shall be formed within 90 days of signing of Contract Agreement. For this purpose, the Authority will maintain a panel of DAB members. The complete panel, which shall not be less than five members, shall be sent by Authority to the Contractor to nominate one member of the DAB from the panel as Contractor's nominee within two weeks of receipt of the panel. On receipt of Contractor's nominee, the Authority shall nominate one member from the same panel as Authority's nominee for the DAB. Both above nominees shall jointly select presiding member of the DAB from the same panel.

- 24.2.2 The appointment of DAB shall be effectuated by way of a tri-partite agreement among the Authority, Contractor and the respective DAB members. The terms of the remuneration of each member shall be as fixed by Ministry of Railways from time to time. Each party shall be responsible for paying one-half of this remuneration.
- 24.2.3 If one or more of the members appointed refuses to act as DAB member, or is unable or unwilling to perform his functions as DAB member for any reason whatsoever or dies or in the opinion of the Authority fails to act without undue delay, the parties shall terminate the mandate of such DAB member and thereupon new DAB member shall be appointed in the same manner, as the outgoing DAB member had been appointed.
- 24.2.4 The appointment of any member may be terminated by mutual agreement of both Parties, but not by the Authority or the Contractor acting alone. Unless otherwise agreed by both the Parties, the appointment of the DAB (including each member) shall expire upon expiry of this Contract Agreement.
- 24.2.5 Before start of DAB proceedings, each DAB member shall give the following certificate to the Authority and the Contractor:
- “I have no any past or present relationship in relation to the subject matter in dispute, whether financial, business, professional or other kind. Further, I have no any past or present relationship with or interest in any of the parties whether financial, business, professional or other kind, which is likely to give rise to justifiable doubts as to my independence or impartiality.”*
- 24.2.6 DAB proceedings shall be conducted as decided by the DAB. The DAB shall give its decision within 90 days of a Dispute referred to it by any of the Parties, duly recording the reasons before arriving at the decision. The DAB shall decide the issue within terms and conditions of the contract. This time limit shall be extendable subject to the Parties mutual agreement.
- 24.2.7 The DAB decision shall not be binding on both the Parties. In case any party is not satisfied by the decision of DAB, then the aggrieved party may approach Standing Arbitral Tribunal for arbitration proceedings. However, even if the aggrieved party had proceeded for Arbitration as per provisions of this agreement, 75% of award amount, pending adjudication by Standing Arbitral Tribunal/Court of Law, shall be made by party to other party. In case payment is to be made by Authority to Contractor, the terms & conditions as incorporated in the Ministry of Railways letter No. 2016/CE(I)/CT/ARB/3(NITI Aayog)/Pt. dated 08th Mar,2017 as amended time to time shall be followed. However, in case Contractor has to pay to the Authority, then 75% of the award amount shall be deducted by the Authority from the running bills or other dues of the Contractor, pending adjudication by Standing Arbitral Tribunal/Court of Law.
- 24.2.8 No dispute shall be referred to Standing Arbitral Tribunal unless the same has been referred to DAB for adjudication. However, in case DAB is not formed due to any reason, the disputes can be directly referred to Standing Arbitral Tribunal to adjudicate the dispute.

- 24.2.9 In the specific cases of any misconduct by any of the members of the DAB, the parties shall have the right to specifically bring it to the notice of the DAB such conduct, through a statement filed with necessary documents in proof of such misconduct and the DAB, after taking NOTICE of such conduct initiate the replacement of the member concerned, in the same manner the member to be replaced was appointed.
- 24.2.10 Once the decision is given by DAB, DAB cannot review the decision at its own or on the request of one party, unless both parties agree for review of decision by DAB.
- 24.2.11 In case DAB decision is not challenged by either party within 180 days of receipt of decision of DAB, the decision shall be considered as final and parties would be barred for referring the same to Standing Arbitral Tribunal for adjudication.
- 24.2.12 The obligation of the Authority and the Contactor shall not be altered by reasons of issue being or under reference to DAB.
- 24.2.13 The DAB shall conduct the proceedings at [Delhi] or any other convenient venue which shall be decided by DAB in consultations with parties.
- 24.2.14 It is a term of this contract that the Parties shall not approach any Court of Law for settlement of such disputes or differences unless an attempt has first been made by the parties to settle such disputes or differences through DAB and Standing Arbitral Tribunal.

24.3 Standing Arbitral Tribunal

- 24.3.1 The arbitration proceedings shall be conducted as per 'The Arbitration and Conciliation Act, 1996' with latest amendment of 2019. The Arbitral Tribunal shall consist of a panel of three Retired Railway Officers not below senior administrative grade (SAG). The Standing Arbitral Tribunal shall be formed within 90 days of signing of Contract document. For this purpose, the Authority shall maintain a panel of arbitrators. The complete panel, which shall not be less than five members, shall be sent by Authority to the Contractor to nominate one arbitrator from the panel as Contractor's nominee within two weeks of receipt of the panel. On receipt of Contractor's nominee, the Authority shall appoint above contractor's nominee as well as another from the same panel as Authority's nominee as arbitrators. Both above arbitrators shall jointly select presiding arbitrator from the same panel.
- 24.3.2 If the Contractor fails to select the contractor's nominee from the panel within two weeks of the receipt of the said panel, the Authority shall, after giving one more opportunity to contractor to nominate one as contractor's nominee within next two weeks, appoint two arbitrators from the same panel. Both above arbitrators shall jointly select presiding arbitrator from the same panel.
- 24.3.3 If one or more of the Arbitrators appointed refuses to act as Arbitrator, withdraws from his office as Arbitrator, or vacates his office or is unable or unwilling to perform his functions as Arbitrator for any reason whatsoever

or dies or in the opinion of the Authority fails to act without undue delay, the parties shall terminate the mandate of such arbitrator and thereupon new arbitrator shall be appointed in the same manner, as the outgoing arbitrator had been appointed.

- 24.3.4 Before start of arbitration proceedings, each appointed arbitrator shall give the following certificate to the Authority and the Contractor:

“I have no any past or present relationship in relation to the subject matter in dispute, whether financial, business, professional or other kind. Further, I have no any past or present relationship with or interest in any of the parties whether financial, business, professional or other kind, which is likely to give rise to justifiable doubts as to my independence or impartiality in terms of The Arbitration and Conciliation Act, 1996.”

- 24.3.5 In the specific cases of any misconduct by any of the members of the TRIBUNAL, the parties shall have the right to specifically bring it to the notice of the TRIBUNAL such conduct, through a statement filed with necessary documents in proof of such misconduct and the TRIBUNAL, after taking NOTICE of such conduct initiate the replacement of the member concerned, in the same manner the member to be replaced was appointed.
- 24.3.6 Each party has to prepare and furnish to Standing Arbitral Tribunal and other party, once in a every six months, an account giving full and detailed particulars of all claims, which even after decision of DAB are unsettled, to which the parties may consider themselves entitled to during the last preceding six months. If any dispute has arisen as regards execution of the works under the contract, while submitting the said half yearly claims, the parties shall give full particulars of such dispute in the said submission. After signing Contract agreement, within 6 months, the parties shall submit all the claims from date of award of contract in first submission of claims.
- 24.3.7 The said communication will be the reference of the dispute to the ARBITRAL TRIBUNAL appointed under the present agreement.
- 24.3.8 The parties shall submit all the relevant documents in support of their claims and the reasons for raising the dispute to the TRIBUNAL.
- 24.3.9 The said claims of the parties so referred to ARBITRAL TRIBUNAL so far it relates to the disputed claims, shall be treated as Statement of Claims of the parties and the ARBITRAL TRIBUNAL shall call upon the other party to submit its reply. The ARBITRAL TRIBUNAL after giving an opportunity of being heard to both the parties, decide the dispute within a period of Four months from the date of communication of the dispute under clause 24.3.6 above. The Arbitral Tribunal will pass a reasoned award in writing, while deciding the Dispute. Once the award is declared, the Arbitral Tribunal cannot review the same except what is permissible in terms of provisions contained in Arbitration and Conciliation Act. The parties shall be entitled to the remedies under the Arbitration and Conciliation Act 1996 or any amendment thereof.
- 24.3.10 The parties agree that all the claims of any nature whatsoever, which the parties may have in respect of the work of the preceding six months, should be made in the said Statements of half yearly claims. If the parties do not

raise the claim, if any, arising from the work done in the preceding six months in the statement of half yearly claim, to Standing Arbitral Tribunal, the parties shall be deemed to have waived and given up the claims. The ARBITRAL TRIBUNAL shall not entertain such disputes, which have not been raised in the statement of half yearly Claim before the Standing Arbitral Tribunal and such claims will stand excluded from the scope of arbitration and beyond the terms of reference to the ARBITRAL TRIBUNAL.

- 24.3.11 The parties agree that where the Arbitral award is for payment of money, no interest shall be payable on the whole or any part of the money for any period till the date on which the award is made.
- 24.3.12 The obligation of the Authority and the Contactor shall not be altered by reasons of arbitration being conducted during the progress of work. Neither party shall be suspended the work on account of arbitration and payments to the contractor shall continue to be made in terms of the contract and /or as awarded (except when Award is challenged in the Court in which case the payments would be as per the court's orders)
- 24.3.13 The ARBITRAL TRIBUNAL shall remain in force during the entire period the PRINCIPAL CONTRACT is in force and until the closure of the PRINCIPAL CONTRACT with the final no claim certificate, which will be filed with ARBITRAL TRIBUNAL.
- 24.3.14 The Arbitral Tribunal shall conduct the Arbitration proceedings at Mumbai or any other convenient venue which shall be decided by Tribunal in consultation with both parties.
- 24.3.15 The cost of arbitration shall be borne equally by the respective parties. The cost shall inter-alia include fee of the arbitrators as per the rates fixed by the Indian Railways from time to time.
- 24.3.16 It is a term of this contract that the Contractor shall not approach any Court of Law for settlement of such disputes or differences unless an attempt has first been made by the parties to settle such disputes or differences through conciliation, DAB and Standing Arbitral Tribunal.
- 24.3.17 Even in case arbitration award is challenged by a party in the Court of Law, 75% of award amount, pending adjudication by Court of Law, shall be made by party to other party. In case payment is to be made by Authority to Contractor, the terms & conditions as incorporated in the Ministry of Railways letter No. 2016/CE(I)/CT/ARB/3(NITI Aayog)/Pt. dated 08th Mar,2017 as amended time to time shall be followed. However, in case Contractor has to pay to the Authority, then 75% of the award amount shall be deducted by the Authority from the running bills or other dues of the Contractor, pending adjudication by Court of Law.
- 24.3.18 The contract shall be governed by the law for the time being in force in the Republic of India. In case of any disputes/differences resulting in court cases between Contractor & Authority, the jurisdiction shall be of Courts at [Delhi] only.

ARTICLE 25
MISCELLANEOUS

25.1 Governing law and jurisdiction

This Agreement shall be construed and interpreted in accordance with and governed by the laws of India, and the courts at Mumbai shall have exclusive jurisdiction over matters arising out of or relating to this Agreement.

25.2 Waiver of immunity

Each Party unconditionally and irrevocably:

- (a) agrees that the execution, delivery and performance by it of this Agreement constitute commercial acts done and performed for commercial purpose;
- (b) agrees that, should any proceedings be brought against it or its assets, property or revenues in any jurisdiction in relation to this Agreement or any transaction contemplated by this Agreement, no immunity (whether by reason of sovereignty or otherwise) from such proceedings shall be claimed by or on behalf of the Party with respect to its assets;
- (c) waives any right of immunity which it or its assets, property or revenues now has, may acquire in the future or which may be attributed to it in any jurisdiction; and
- (d) consents generally in respect of the enforcement of any judgement or award against it in any such proceedings to the giving of any relief or the issue of any process in any jurisdiction in connection with such proceedings (including the making, enforcement or execution against it or in respect of any assets, property or revenues whatsoever irrespective of their use or intended use of any order or judgement that may be made or given in connection therewith).

25.3 Delayed payments

The Parties hereto agree that payments due from one Party to the other Party under the provisions of this Agreement shall be made within the period set forth therein, and if no such period is specified, within 30 (thirty) days of receiving a demand along with the necessary particulars. In the event of delay beyond such period, the defaulting Party shall pay interest for the period of delay calculated at a rate equal to Bank Rate plus 3% (three percent), save and except as otherwise specified in this Agreement. All interest payment under this Agreement shall, save and except as otherwise



specified, be calculated at quarterly rests, and recovery there of shall be without prejudice to the rights of the Parties under this Agreement including Termination thereof.

25.4 Waiver

25.4.1 Waiver, including partial or conditional waiver, by either Party of any default by the other Party in the observance and performance of any provision of or obligations under this Agreement:

- (a) shall not operate or be construed as a waiver of any other or subsequent default hereof or of other provisions of or obligations under this Agreement;
- (b) shall not be effective unless it is in writing and executed by a duly authorized representative of the Party; and
- (c) shall not affect the validity or enforceability of this Agreement in any manner.

25.4.2 Neither the failure by either Party to insist on any occasion upon the performance of the terms, conditions and provisions of this Agreement or any obligation thereunder nor time or other indulgence granted by a Party to the other Party shall be treated or deemed as waiver of such breach or acceptance of any variation or the relinquishment of any such right hereunder.

25.5 Liability for review of Documents and Drawings

Except to the extent expressly provided in this Agreement:

- (a) no review, comment or approval by the Authority or the Authority Engineer of any Document or Drawing submitted by the Contractor nor any observation or inspection of the construction of the Railway Project nor the failure to review, approve, comment, observe or inspect hereunder shall relieve or absolve the Contractor from its obligations, duties and liabilities under this Agreement, Applicable Laws and Applicable Permits; and
- (b) the Authority shall not be liable to the Contractor by reason of any review, comment, approval, observation or inspection referred to in Sub-clause (a) above.

25.6 Exclusion of implied warranties etc.

This Agreement expressly excludes any warranty, condition or other undertaking implied at law or by custom or otherwise arising out of any other agreement between the Parties or any representation by either Party not contained in a binding legal agreement executed by both Parties.

25.7 Survival

25.7.1 Termination shall:

- (a) not relieve the Contractor or the Authority, as the case may be, of any obligations hereunder which expressly or by implication survive Termination hereof; and
- (b) except as otherwise provided in any provision of this Agreement expressly limiting the liability of either Party, not relieve either Party of any obligations or liabilities for loss or damage to the other Party arising out of, or caused by, acts or omissions of such Party prior to the effectiveness of such Termination or arising out of such Termination.

25.7.2 All obligations surviving Termination shall only survive for a period of 3 (three) years following the date of such Termination.

25.8 Entire Agreement

This Agreement and the Schedules together constitute a complete and exclusive statement of the terms of the agreement between the Parties on the subject hereof, and no amendment or modification hereto shall be valid and effective unless such modification or amendment is agreed to in writing by the Parties and duly executed by persons especially empowered in this behalf by the respective Parties. All prior written or oral understandings, offers or other communications of every kind pertaining to this Agreement are abrogated and withdrawn. For the avoidance of doubt, the Parties hereto agree that any obligations of the Contractor arising from the Request for Proposal and bid submissions, as the case may be, shall be deemed to form part of this Agreement and treated as such.

25.9 Severability

If for any reason whatsoever, any provision of this Agreement is or becomes invalid, illegal or unenforceable or is declared by any court of competent jurisdiction or any other instrumentality to be invalid, illegal or unenforceable, the validity, legality or enforceability of the remaining provisions shall not be affected in any manner, and the Parties will negotiate in good faith with a view to agreeing to one or more provisions which may be substituted for such invalid, unenforceable or illegal provisions, as nearly as is practicable to such invalid, illegal or unenforceable provision. Failure to agree upon any such provisions shall not be subject to the Dispute Resolution Procedure set forth under this Agreement or otherwise.

25.10 No partnership

This Agreement shall not be interpreted or construed to create an association, joint venture or partnership between the Parties, or to impose any partnership obligation or liability upon either Party, and neither Party shall have any right, power or authority to enter into any agreement or undertaking for, or

act on behalf of, or to act as or be an agent or representative of, or to otherwise bind, the other Party.

25.11 Third parties

This Agreement is intended solely for the benefit of the Parties, and their respective successors and permitted assigns, and nothing in this Agreement shall be construed to create any duty to, standard of care with reference to, or any liability to, any person not a Party to this Agreement.

25.12 Successors and assigns

This Agreement shall be binding upon, and inure to the benefit of the Parties and their respective successors and permitted assigns.

25.13 Notices

Any notice or other communication to be given by any Party to the other Party under or in connection with the matters contemplated by this Agreement shall be in writing and shall:

- (a) in the case of the Contractor, be given by facsimile or e-mail and by letter delivered by hand to the address given and marked for attention of the person set out below or to such other person as the Contractor may from time to time designate by notice to the Authority; provided that notices or other communications to be given to an address outside Mumbai may, if they are subsequently confirmed by sending a copy thereof by registered acknowledgement due, air mail or by courier, be sent by facsimile or e-mail to the person as the Contractor may from time to time designate by notice to the Authority;

[*****]

- (b) in the case of the Authority, be given by facsimile or e-mail and by letter delivered by hand and be addressed to the] Chief Engineer Construction with a copy delivered to the Authority Representative or such other person as the Authority may from time to time designate by notice to the Contractor; provided that if the Contractor does not have an office in Mumbai , it may send such notice by facsimile or e-mail and by registered acknowledgement due, air mail or by courier; and

- (c) any notice or communication by a Party to the other Party, given in accordance herewith, shall be deemed to have been delivered when in the normal course of post it ought to have been delivered and in all other cases, it shall be deemed to have been delivered on the actual date and time of delivery; provided that in the case of facsimile or e-mail, it shall be deemed to have been delivered on the working day following the date of its delivery.



25.14 Language

All notices required to be given by one Party to the other Party and all other communications, Documentation and proceedings which are in any way relevant to this Agreement shall be in writing and in English language.

25.15 Counterparts

This Agreement may be executed in two counterparts, each of which, when executed and delivered, shall constitute an original of this Agreement.

25.16 Confidentiality

The Parties shall treat the details of this Agreement as private and confidential, except to the extent necessary to carry out obligations under it or to comply with Applicable Laws. The Contractor shall not publish, permit to be published, or disclose any particulars of the Works in any trade or technical paper or elsewhere without the previous consent of the Authority.

25.17 Copyright and Intellectual Property rights

25.17.1 As between the Parties, the Contractor shall retain the copyright and other Intellectual Property rights in the Contractor's Documents and other design documents made by (or on behalf of) the Contractor. The Contractor shall be deemed (by signing this Agreement) to give to the Authority a non-terminable transferable non-exclusive royalty-free license to copy, use and communicate the Contractor's Documents, including making and using modifications of them. This licence shall:

- (a) apply throughout the actual or intended working life (whichever is longer) of the relevant parts of the Works,
- (b) entitle any person in proper possession of the relevant part of the Works to copy, use and communicate the Contractor's Documents for the purposes of completing, operating, maintaining, altering, adjusting, repairing and demolishing the Works, and
- (c) in the case of Contractor's Documents which are in the form of computer programs and other software, permit their use on any computer on the Site and other places as envisaged by this Agreement, including replacements of any computers supplied by the Contractor:

25.17.2 The Contractor's Documents and other design documents made by (or on behalf of) the Contractor shall not, without the Contractor's consent, be used, copied or communicated to a third party by (or on behalf of) the Authority for purposes other than those permitted under this Clause 25.17.

25.17.3 As between the Parties, the Authority shall retain the copyright and other Intellectual Property rights in this Agreement and other documents made by (or on behalf of) the Authority. The Contractor may, at its cost, copy,

use, and obtain communication of these documents for the purposes of this Agreement. They shall not, without the Authority's consent, be copied, used or communicated to a third party by the Contractor, except as necessary for the purposes of the contract.

25.18 Limitation of Liability

25.18.1 Neither Party shall be liable to the other Party for loss of use of any Works, loss of profit, loss of any contract or for any indirect or consequential loss or damage which may be suffered by the other Party in connection with this Agreement.

25.18.2 The total liability of one Party to the other Party under and in accordance with the provisions of this Agreement, save and except as provided in Articles 21 and 23, shall not exceed the Contract Price. For the avoidance of doubt, this Clause shall not limit the liability in any case of fraud, deliberate default or reckless misconduct by the defaulting Party.

ARTICLE 26
DEFINITIONS

26.1 Definitions

In this Agreement, the following words and expressions shall, unless repugnant to the context or meaning thereof, have the meaning hereinafter respectively assigned to them:

“**Accounting Year**” means the financial year commencing from the first day of April of any calendar year and ending on the thirty-first day of March of the next calendar year;

“**Advance Payment**” shall have the meaning as set forth in Clause 17.2.1;

“**Affected Party**” shall have the meaning as set forth in Clause 19.1;

“**Affiliate**” means, in relation to either Party {and/or Members}, a person who controls, is controlled by, or is under the common control with such Party {or Member} (as used in this definition, the expression “control” means, with respect to a person which is a company or corporation, the ownership, directly or indirectly, of more than 50% (fifty per cent) of the voting shares of such person, and with respect to a person which is not a company or corporation, the power to direct the management and policies of such person, whether by operation of law or by contract or otherwise);

“**Agreement**” means this Agreement, its Recitals, the Schedules hereto and any amendments thereto made in accordance with the provisions contained in this Agreement;

“**Applicable Laws**” means all laws, brought into force and effect by GOI or the State Government(s) including rules, regulations and notifications made thereunder, and judgements, decrees, injunctions, writs and orders of any court of record, applicable to this Agreement and the exercise, performance and discharge of the respective rights and obligations of the Parties hereunder, as may be in force and effect during the subsistence of this Agreement;

“**Applicable Permits**” means all clearances, licences, permits, authorizations, no objection certificates, consents, approvals and exemptions required to be obtained or maintained under Applicable Laws in connection with the construction of the Railway Project during the subsistence of this Agreement;

“**Appointed Date**” means that date which is later of:

- (a) the 15th day from the date of signing of this Agreement,
- (b) the 30th day from the date on which the Contractor has delivered the Performance Security in accordance with the provisions of Article 7;
- (c) the date on which the Authority has provided the Right of Way and environmental and forest clearances of at least 95% (ninety five per cent)



of the core land length and 90% (ninety percent) of the non core land length of the Railway Project in conformity with the provisions of Clause 4.3 and 8.2;

“**Arbitration Act**” means the Arbitration and Conciliation Act, 1996 and shall include modifications to or any re-enactment thereof, as in force from time to time;

“**Authority**” shall have the meaning attributed thereto in the array of Parties hereinabove as set forth in the Recitals;

“**Authority Default**” shall have the meaning as set forth in Clause 21.2;

“**Authority Engineer**” shall have the meaning as set forth in Clause 16.1;

“**Authority Representative**” means such person or persons as may be authorized in writing by the Authority to act on its behalf under this Agreement and shall include any person or persons having authority to exercise any rights or perform and fulfil any obligations of the Authority under this Agreement;

“**Bank**” means a Nationalized bank incorporated in India when a Bank Guarantee for Advance Payment (Clause 17.2) is to be submitted and a Scheduled Commercial Bank incorporated in India for all other purposes, or any other bank acceptable to the Authority;

“**Bank Rate**” means the rate of interest specified by the Reserve Bank of India from time to time in pursuance of section 49 of the Reserve Bank of India Act, 1934 or any replacement of such Bank Rate for the time being in effect;

“**Base Date**” The base date for this contract shall be date of opening of Tender.

“**Base Month**” means the month just prior to Bid Due Date month. The Quarter for applicability of price adjustment shall be commence from next month after Base Month;

“**Bid**” means the documents in their entirety comprised in the bid submitted by the selected bidder/Consortium in response to the Request for Proposal in accordance with the provisions thereof;

[“**Bid Security**” means the bid security provided by the Contractor to the Authority in accordance with the Request for Proposal, and which is to remain in force until substituted by the Performance Security;]

“**Change in Law**” means the occurrence of any of the following after the Base Month:

- (a) the enactment of any new Indian law;
- (b) the repeal, modification or re-enactment of any existing Indian law;
- (c) the commencement of any Indian law which has not entered into effect until the Base Month;
- (d) a change in the interpretation or application of any Indian law by a judgement of a court of record which has become final, conclusive and

binding, as compared to such interpretation or application by a court of record prior to the Base Month; or

- (e) any change in the rates of any of the Taxes or royalties that have a direct effect on the Project;

“**Change of Scope**” shall have the meaning as set forth in Article 13;

“**Change of Scope Notice**” shall have the meaning asset forth in Clause 13.2.1;

“**Change of Scope Order**” shall have the meaning asset forth in Clause 13.2.4;

“**Completion Certificate**” shall have the meaning as set forth in Clause 12.4;

{“**Consortium/Joint Venture**” means the Consortium/Joint Venture of entities which have formed a consortium/joint venture for implementation of this Project;}⁵

“**Construction**” shall have the meaning as set forth in Clause 1.2.1 (f);

“**Construction Period**” means the period commencing from the Appointed Date and ending on the date of the Completion Certificate;

“**Contract Price**” means the amount as specified in Clause 17.1.1;

“**Contractor**” shall have the meaning attributed thereto in the array of Parties hereinabove as set forth in the Recitals;

“**Contractor Default**” shall have the meaning as set forth in Clause 21.1;

“**Core Land**” means the part of Land essentially needed to open & operationalize the mainline for traffic including the Land required for laying the mainline tracks and its Signaling/ Telecom/ Overhead Electrification/ Power Supply Installations, Operational Buildings(station building, huts, gumties etc), as shown in item No. 3(a) of Annexure-I of Schedule-A;

“**Cure Period**” means the period specified in this Agreement for curing any breach or default of any provision of this Agreement by the Party responsible for such breach or default and shall:

- (a) commence from the date on which a notice is delivered by one Party to the other Party asking the latter to cure the breach or default specified in such notice;
- (b) not relieve any Party from liability to pay Damages or compensation under the provisions of this Agreement; and

⁵ This definition may be omitted if the Contractor is not a Consortium/Joint Venture.



(c) not in any way be extended by any period of Suspension under this Agreement; provided that if the cure of any breach by the Contractor requires any reasonable action by the Contractor that must be approved by the Authority or the Authority Engineer hereunder, the applicable Cure Period shall be extended by the period taken by the Authority or the Authority Engineer to accord their approval;

“Damages” shall have the meaning as set forth in paragraph (w) of Clause 1.2.1;

“Defect” means any defect or deficiency in Construction of the Works or any part thereof, which does not conform with the Specifications and Standards;

“Defects Liability Period” shall have the meaning as set forth in Clause 15.1;

“Dispute” shall have the meaning as set forth in Clause 24.1.1;

“Dispute Resolution Procedure” means the procedure for resolution of Disputes as set forth in Article 24;

“Drawings” means all of the drawings, calculations and documents pertaining to the Railway Project as set forth in Schedule-H, and shall include ‘as built’ drawings of the Railway Project;

“Document” or “Documentation” means documentation in printed or written form, or in tapes, discs, drawings, computer programmes, writings, reports, photographs, films, cassettes, or expressed in any other written, electronic, audio or visual form;

“Emergency” means a condition or situation that is likely to endanger the safety or security of the individuals on or about the Railway Project, including Users thereof, or which poses an immediate threat of material damage to the Works or any of the Project Assets;

“Encumbrances” means, in relation to the Railway Project, any encumbrances such as mortgage, charge, pledge, lien, hypothecation, security interest, assignment, privilege or priority of any kind having the effect of security or other such obligations, and shall include any designation of loss payees or beneficiaries or any similar arrangement under any insurance policy pertaining to the Railway Project, where applicable herein but excluding utilities referred to in Clause 9.1;

“EPC” means engineering, procurement and construction;

“Final Payment Certificate” shall have the meaning as set forth in Clause 17.12.1;

“Final Payment Statement” shall have the meaning as set forth in Clause 17.10.1;

“Force Majeure” or “Force Majeure Event” shall have the meaning ascribed to it in Clause 19.1;

[“GAD” or “General Arrangement Drawings” shall have the meaning as set forth in Clause 4.1.3 (c);]

“GOI” or “Government” means the Government of India;

“Good Industry Practice” means the practices, methods, techniques, designs, standards, skills, diligence, efficiency, reliability and prudence which are generally and reasonably expected from a reasonably skilled and experienced contractor engaged in the same type of undertaking as envisaged under this Agreement and which would be expected to result in the performance of its obligations by the Contractor in accordance with this Agreement, Applicable Laws and Applicable Permits in reliable, safe, economical and efficient manner;

“Government Instrumentality” means any department, division or sub-division of the Government or the State Government and includes any commission, board, authority, agency or municipal and other local authority or statutory body, including panchayat, under the control of the Government or the State Government, as the case may be, and having jurisdiction over all or any part of the Railway Project or the performance of all or any of the services or obligations of the Contractor under or pursuant to this Agreement;

“IEEMA” means Indian Electrical and Electronics Manufacturers Association

“Important Bridge” means a bridge having a linear waterway of 300 metres or a total water way of 1000 sqm or more;

“Indemnified Party” means the Party entitled to the benefit of an indemnity pursuant to Article 23 ;

“Indemnifying Party” means the Party obligated to indemnify the other Party pursuant to Article 23;

“Indirect Political Event” shall have the meaning as set forth in Clause 19.3;

“Insurance Cover” means the aggregate of the maximum sums insured under the insurances taken out by the Contractor pursuant to Article 18, and includes all insurances required to be taken out by the Contractor under Clauses 18.1 and 18.9 but not actually taken, and when used in the context of any act or event, it shall mean the aggregate of the maximum sums insured and payable or deemed to be insured and payable in relation to such act or event;

“Intellectual Property” means all patents, trademarks, service marks, logos, get-up, trade names, internet domain names, rights in designs, blue prints, programmes and manuals, drawings, copyright (including rights in computer software), database rights, semi-conductor, topography rights, utility models, rights in know-how and other intellectual property rights, in each case whether registered or unregistered and including applications for registration, and all rights or forms of protection having equivalent or similar effect anywhere in the world;

“Interim Payment Certificate” or **“IPC”** means the interim payment certificate issued by the Authority Engineer for payment to the Contractor in respect of Contractor’s claims for payment raised in accordance with the provisions of this Agreement;

“Lead Member” shall, in the case of a Consortium/Joint Venture, mean the member of such Consortium/Joint Venture who shall have the authority to bind the

contractor and each member of the Consortium/Joint Venture; and shall be deemed to be the Contractor for the purposes of this Agreement; }[§]

“**LOA**” or “**Letter of Acceptance**” means the letter of acceptance referred to in Recital (D);

“**Maintenance Manual**” shall have the meaning ascribed to it in Clause 10.6;

“**Major Bridge**” means a bridge having a linear waterway of 18 metres or more or which has a clear opening of 12 metres or more in spans;

“**Manuals**” shall mean the manuals specified in Schedule-D;

“**Material Adverse Effect**” means a material adverse effect of any act or event on the ability of either Party to perform any of its obligations under and in accordance with the provisions of this Agreement and which act or event causes a material financial burden or loss to either Party;

“**Materials**” are all the supplies used by the Contractor for incorporation in the Works or for the maintenance of the Railway Project;

“**Minor Bridge**” means a bridge having a linear waterway of less than 18 metres or which has a clear opening of less than 12 metres or in spans;

“**Non-Core Land**” means the Land required for the project line other than the Core-Land, as shown in item No. 3(b) of Annexure-I of Schedule-A;

“**Non-Political Event**” shall have the meaning as set forth in Clause 19.2;

“**Parties**” means the parties to this Agreement collectively and “**Party**” shall mean any of the parties to this Agreement individually;

“**Performance Security**” shall have the meaning as set forth in Clause 7.1;

“**Plant**” means the apparatus and machinery intended to form or forming part of the Works;

“**Political Event**” shall have the meaning as set forth in Clause 19.4;

“**Power Block**” means the length of the railway line between two railway stations, on which the overhead equipment (OHE) is de-energized and earthed to enable the Contractor to execute construction or maintenance works;

“**Programme**” shall have the meaning as set forth in Clause 10.1.3;

“**Project**” means the construction and maintenance of the Railway Project in accordance with the provisions of this Agreement, and includes all works, services and equipment relating to or in respect of the Scope of the Project;

[§] This definition may be omitted if the Contractor is not a Consortium/Joint Venture.

“Project Assets” means all physical and other assets relating to (a) tangible assets such as civil works and equipment including [foundations, embankments, pavements, road surface, interchanges, bridges, culverts, road over-bridges, drainage works, traffic signals, sign boards, kilometre-stones, electrical systems, communication systems, rest areas, relief centres, maintenance depots and administrative offices]; and (b) Project Facilities situated on the Site;

“Project Completion Date” means the date on which the last Completion Certificate is issued;

“Project Completion Schedule” means the progressive Project Milestones set forth in Schedule-I for completion of the Railway Project on or before the Scheduled Completion Date;

“Project Facilities” means all the amenities and facilities to be constructed on the Site, as described in Schedule-C;

“Project Milestone” means the project milestone set forth in Schedule-I and includes the Scheduled Completion Date;

“Proof Consultant” shall have the meaning as set forth in Clause 10.2.2;

“Provisional Certificate” shall have the meaning as set forth in Clause 12.2;

“Punch List” shall have the meaning as set forth in Clause 12.2.1;

“Quality Assurance Plan” or **“QAP”** shall have the meaning as set forth in Clause 11.2.1;

“Railway Project” means the Works specified in this Agreement on the railway line from Ch: -830 to Ch:48620 having a length of 49.45 kms in Central and Western Railway Zone;

“Re.”, **“Rs.”** or **“Rupees”** or **“Indian Rupees”** means the lawful currency of the Republic of India;

“Request for Proposals” or **“RFP”** shall have the meaning as set forth in Recital ‘C’; **“Retention Money”** shall have the meaning set forth in Clause 7.5.1;

“Right of Way” means the constructive possession of the Site free from encroachments and encumbrances, together with all way leaves, easements, unrestricted access and other rights of way, howsoever described, necessary for construction of the Railway Project in accordance with this Agreement;

“RINL” means Rashtriya Ispat Nigam Limited

“Safety Consultant” shall have the meaning as set forth in clause 10.2.11

“Scheduled Completion Date” shall be the date as set forth in Clause 10.3.1;

“Scope of the Project” shall have the meaning as set forth in Clause 2.1;

“**Section**” means the portion of the railway line between two block stations;

“**Site**” shall have the meaning as set forth in Clause 8.1;

“**Specifications and Standards**” means the specifications and standards relating to the quality, quantity, capacity and other requirements for the Railway Project, as set forth in Schedule-D, and any modifications thereof, or additions thereto, as included in the design and engineering for the Railway Project submitted by the Contractor to, and expressly approved by, the Authority;

“**Stage Payment Statement**” shall have the meaning as set forth in Clause 17.4;

“**Structures**” means an elevated railway line or a flyover, as the case may be;

“**Sub-contractor**” means any person or persons to whom a part of the Works has been subcontracted by the Contractor and the permitted legal successors in title to such person, but not an assignee to such person;

“**Suspension**” shall have the meaning as set forth in Article 20;

“**Taxes**” means any Indian taxes including excise duties, customs duties, value added tax, sales tax, local taxes, cess and any impost or surcharge of like nature (whether Central, State or local) on the ssss, Materials, equipment and services incorporated in and forming part of the Railway Project charged, levied or imposed by any Government Instrumentality, but excluding any interest, penalties and other sums in relation thereto imposed on any account whatsoever. For the avoidance of doubt, Taxes shall not include taxes on corporate income;

“**Termination**” means the expiry or termination of this Agreement;

“**Termination Notice**” means the communication issued in accordance with this Agreement by one Party to the other Party terminating this Agreement;

“**Termination Payment**” means the amount payable by either Party to the other upon Termination in accordance with Article 21;

“**Terms of Reference**” or “**TOR**” shall have the meaning as set forth in Clause 16.2.1;

“**Tests**” means the tests set forth in Schedule-J to determine the completion of Works in accordance with the provisions of this Agreement;

“**Time Extension**” shall have the meaning as set forth in Clause 10.4.1;

“**Traffic Block**” means the length of railway line between two railway stations, on which traffic is blocked with or without OHE being de-energized to enable construction or maintenance works to be undertaken.

“**User**” means a person who travels or intends to travel on the Railway Project or any part thereof on any train or vehicle;

“**Valuation of Unpaid works**” shall have the meaning as set forth in Clause 21.5.1;

“**Works**” means all works including survey and investigation, design, engineering, procurement, construction, Plant, Materials, temporary works and other things necessary to complete the Railway Project in accordance with this Agreement; and

“**WPI**” means the wholesale price index for various commodities as published by the Ministry of Commerce and Industry, GOI and shall include any index which substitutes the WPI, and any reference to WPI shall, unless the context otherwise requires, be construed as a reference to the WPI published for the period ending with the preceding month.

IN WITNESS WHEREOF THE PARTIES HAVE EXECUTED AND DELIVERED THIS AGREEMENT AS OF THE DAY, MONTH AND YEAR FIRST ABOVE WRITTEN.

SIGNED, SEALED AND
DELIVERED

For and on behalf of
THE DFCCIL by:

(Signature)

(Name)

(Designation)

SIGNED, SEALED AND
DELIVERED

For and on behalf of
THE CONTRACTOR by:

(Signature)

(Name)

(Designation)

In the presence of:

- 1.
- 2.

{COUNTERSIGNED and accepted by:

Name and particulars of other members of the Consortium/Joint Venture}



Schedules



SCHEDULE - A
(See Clauses 2.1 and 8.1)
SITE OF THE PROJECT

1 The Site

- 1.1 Works are to be executed at DDUN station in between DDU to PRYJ section of Eastern Dedicated Freight Corridor, under the jurisdiction of Chief General Manager / PRYJ (E)/ DFCCIL. However, DFCCIL reserves right to change the site & length of work anywhere in adjacent / adjoining area of the worked lined in the jurisdiction and the contractor shall be bound to execute the work without any extra cost.
- 1.2 The dates of handing over Right of Way to the Contractor are specified in Annex-II of this Schedule-A.
- 1.3 An inventory of the Site including the land, buildings, structures, track works, trees and any other immovable property on, or attached to, the Site shall be prepared jointly by the Authority's Representative and the Contractor, and such inventory shall form part of the memorandum referred to in Clause 8.2.1 of this Agreement.
- 1.4 The alignment plans of the Crew Running Room Project is specified in Annex-III.
- 1.5 The status of the environment clearances and forest clearances obtained or awaited is given in Annex IV.



Annex - I
(Schedule-A)

Site

1. Site

Construction Of Running Room at DDUN

1.1. The project envisages “Construction of Running Room at DDUN DFC Station In between DDU to PRYJ Section of EDFC, under jurisdiction of CGM/ PRYJ/E”

1.2. General:-

Dedicated Freight Corridor Corporation of India Ltd.(DFCCIL), a public sector undertaking has been set up under the Indian Companies Act, 1956 for implementation of Dedicated Freight Corridor Project. Government of India is the soles hare holder of the DFCCIL.

Ministry of Railways (MOR), Government of India has planned to construct Dedicated Freight Corridor (DFC) covering about 3338 route Kilometres on Eastern and Western Corridors. The coverage of Eastern Corridor is from Ludhiana to Dankuni and Western Corridors planned from Jawaharlal Nehru Port, Mumbai to Rewari/ Tughlakabad /Dadri near Delhi. There will be a linkage between two corridors at Dadri.

1.3. Eastern Dedicated Freight Corridor

Eastern DFC Route will be approximately 1839Km long from Dankuni to Ludhiana via Dankuni–Asansole–Dhanbad–Gaya–Sonnagar - Mughalsarai- Allahabad - Kanpur - Tundla- Aligarh - Khurja - Bulandshahr – Meerut – Saharanpur–Ambala-Ludhiana. Proposed alignment of DFC has been generally kept parallel to existing Indian Railway line except provision of detours at some stations where the existing yards/ cities are congested .

The DDUN to Bhaupur section of Eastern Dedicated Freight Corridor has been dedicated to nation. Commercial operation of Goods Trains has been started in between The New DDU to New Bhaupur section of Eastern Dedicated Freight Corridor. For smooth and safe running of Goods Train regular maintenance of tracks including yards, Civil buildings and major & minor bridges are essentially required as per protocol and standards.

EDFC-2 is part of EDFC and start from New Bhaupur (CH. 507.610) to DDUN (CH:119.500) of DFCCIL. The section is approximately 390 km long. The section of PRYJ (E) is from DDUN (Ch. 119.50) to near Yamuna Bridge (Ch.278.155) having approx. 181 Km long including PCOI Link Line, IDGJ Link Line and Jeonathpur Link Line having 6 crossing/junction stations in between.



Annex - II
(Schedule-A)

Dates for providing Right of Way

The following are complete details of the Right of Way showing the dates on which the Authority shall provide the different sections of the Right of Way to the Contractor:

Sl. No	In Between	Length (km)	Distance of Railway Boundary from C/Lof [UP/DN] line (in m)		Date of providing Right of Way
			Right Hand Side	Left Hand Side	
1	2	3	4	5	6
Part A:					
Right of Way being 95% (ninety five percent) of the core land length and 90 % (ninety percent) of the non core length of the Project, under Clauses 4.1.3 read with Clauses 8.2 and 8.3 of the Agreement					Within 15 (fifteen) days of the signing of the Agreement or within 30 (thirty) days of the date of receiving the Performance per the agreed sequence and program work
(i) Full Right of Way (full width) a) As per annexure of land details	New DDU station Building	100 Mtr			



(ii) Part Right of Way (part width) a) As per annexure of land details				
	Total length	100 Mtr		



Annex - III (Schedule-A)



Annex - III
(Schedule-A)
Plan and Profile

The proposed Building Plan of the Running Room Project are attached. This is based on survey conducted by the Authority. The Contractor shall verify the same for ensuring technical feasibility within the Right of Way boundaries. (Any deviation [positive/negative] from the enclosed Engineering Scale Plans, Approved Alignment plan, and L section will be treated as Change of scope.)

- 1) The Contractor shall review, verify and revalidate all relevant factors which could have an impact on the Design and construction of the Crew Running Room Building including but not limited to the topography, subsurface conditions, ground water levels, Temporary Works, dewatering, drainage, climatic conditions, the availability or lack of access, working space, storage, accommodation, restrictions imposed by the existing Indian Railways Tracks, the proximity of adjoining structures, the local regulations regarding the obstruction of public highways and any other limitations imposed by the site and its surroundings, for the satisfactory completion of Works meeting with performance requirements in the stipulated time.
- 2) It will be presumed that Contractor has taken note of all effects of these constraints on his construction operations to ensure on-time completion of the Works.
- 3) No claim by the Contractor on the grounds of lack of foresight or knowledge of the site conditions or any unknown parameters shall be considered.
- 4) The Permanent Works shall not infringe the Indian Railway schedule of dimensions and land boundary limits provided by Railways.
- 5) If the definitive design requires additional land over and above that already set out, the Contractor will inform the Engineer.
- 6) The Geotechnical Investigation data provided by the Authority (If Any) shall be supplemented by verifications / additional investigations if considered necessary by the Contractor for development of his Technical Design at his own cost. No claim shall be entertained by the Authority in case the Contractor encounters the data different than that included during the verification / additional investigation or actual execution of work.

The relevant drawings are provided in the Enclosure as given below:

1. **Enclosure A:** Site Sketch Plan, Ground Floor Plan, First Floor Plan, Second Floor Plan, Third Floor Plan.

NOTE: 1. The above list is indicative and not exhaustive. Any other standard drawing as required shall be made available and contractor shall adopt the same with due approval from Authority's Engineer.

2. The above mentioned enclosures are uploaded on IREPS portal.



Annex - IV
(Schedule-A)

Environment Clearances and Forest Clearances

1. Environment clearances: - The scope of work in this contract envisages **Construction Of Running Room at DDUN Station**. No project work has been envisaged needing environment /forest clearance for this Proposed project is required. However, regulations imposed by any Govt. agency, if applicable shall be complied by contractor.

2.

(a) The following environment clearances have been obtained:

No environmental clearance is required

(b) The following environment clearances are awaited:

No Environmental clearances are awaited

3. Forest clearances

(a) The following forest clearances have been obtained:

No forest clearance is required

(b) The following forest clearances are awaited:

No forest clearance is required.

SCHEDULE - B
(See Clause 2.1)

Development of the Railway Project

Development of the Running Room Project shall include design and construction of the Proposed Project as described in Annex -I to this Schedule-B and in Schedule-C.



**Annex - I
(Schedule-B)**

Description of Railway Project¹⁷

Description of Railway Project:

- a) The project comprises of Construction of Running Room at DDUN DFC Station In between DDU to PRYJ Section of EDFC, under jurisdiction of CGM/ PRYJ/E.

I. Scope of work is as per the requirements given in the bid document but not limited to:

- i. The proposed work mainly comprises of composite work for construction of Running Room, including firefighting arrangement, electrical works, lift and other connected works like water supply, sewerage, drainage, sanitary, landscaping etc. at DDUN DFC Station Between DDU to PRYJ Section of EDFC, under jurisdiction of CGM/ PRYJ/E.
- ii. Other miscellaneous work.

Indian Railways Unified Standard Specifications (Works and materials), Volume I & II are available for sale at the offices of General Managers and DRMs at all Zonal Railways & Production Units.

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 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.

2.1.1.2 For supply and use of cement in various works, relevant Indian Railways Unified Standard Specifications (Works and Materials), Volume I & II, 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: 12174:1987 or any other approved composite bags, bearing the following information in legible markings:

- (i) Manufacturer's name or Registered Trade Mark of manufacturer, if any.
- (ii) Grade of cement
- (iii) Type of cement
- (iv) Weight of each bag in Kg.
- (v) Date of manufacture,
- (vi) 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 100 Tonnes of cement and for every change in lot/batch and the same shall be submitted to the DFCCIL and take approval of the DFCCIL before using in 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 provided by 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 North Central Railway Unified Standard Schedule of Rates (Works and Materials), Engineering Department and for approved 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 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 rains, etc. Storage of cement at the work site shall 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 his part shall be the liability of the contractor.

2.1.7.3 53 Grade/43 Grade/33 Grade of cement should be stacked separately in countable manner.

2.1.7.4 Admixture as per IS: 9103 of approved manufacturer by the Engineer shall be permitted to be used in concrete wherever 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.

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

2.1.7.7 Cement not more than 03 months old from the date of manufacture shall be used. It shall be transported and stacked by the contractor in his godown at his own cost with all safety against loss/ theft by providing necessary security/watchman. The DFCCIL shall entertain no extra cost.

2.1.7.8 Contractor has to submit original purchase invoice/ Challans for the proof of purchase.

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 Railway Unified Standard Specifications (Works & Materials) Volume I & II, Engineering Department 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 Railway Unified Standard Specifications (Works & Materials) Volume I & II, Engineering Department
- (iv) Relevant IRS/IRC/IS Specifications/Codes

2.2.1.2 Specifications for cement, steel, GI binding wire, used in concrete construction shall be as per IRS/IRC/IS specifications. 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 minimum 43 Grade Ordinary Portland cement 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 D/550D) 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 iron rolling facilities, followed by production of liquid steel and crude steel, as per Ministry of Steel's guidelines.

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 cutting and straightening is also included.

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 of reinforcement

provided for accountable and payment of steel reinforcement. The contractor should sign a similar such register maintained by DFCCIL 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 DFCCIL 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 approved bar bending schedule. 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) -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 of approved quarries only.

2.2.4.2 The size of the coarse aggregates shall bears 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 Deleted

2.2.6.2 Deleted

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 over dosage.
- (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:-

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 go downs / places, must be subjected to acceptance test prior to their immediate use.

- 2.2.7.1** 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.

- 2.2.7.2** 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 Railway Unified Standard Specifications (Works & Materials), Volume II .

- 2.2.7.3** 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 approved 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 DFCCIL reserves the right to reject the same and the contractor shall not have any claim in this regard and cost of DFCCIL 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. The concrete shall be kept wet constantly by pounding or covered with a layer of sacking canvas etc.

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 proportion 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 (f_{ck}) at 28 days (N/mm ²)	Target Mean Strength (f_{ck}) 28 days (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.

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		
	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 steining	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 200 mm.

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 adverse 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

(A) 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

(B) 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

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 a 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 metres.

2.2.16.2 When concrete is conveyed by chute, the plant 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 other cases.

2.2.17 Concrete when deposited shall have a temperature of not less than 5^o 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 formwork and 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 with reinforcement 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 equipments in numbers indicated are considered necessary for efficient and speedier concreting at each site. However, the actual numbers may be arranged as required by the Engineer, 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 alteration 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 Pumpable Concrete (Extracted from Para 8.9 of Concrete Bridge Code, 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

- a) 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.
- b) 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.

2.2.21.9 Construction Joints:-

2.2.21.10 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.

2.2.21.11 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.

2.2.21.12 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.

2.2.21.13 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.

2.2.21.14 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.

2.2.21.15 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.

2.2.22 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.

2.2.23 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).

2.2.23.1 Shuttering, Formwork & False work:-

2.2.23.2 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 & false work shall conform to the specified quality consistent with the intended purpose and actual site condition as applicable. All shuttering, form work, false work, etc., shall be got approved by the Engineer before it is put into use.

2.2.23.3 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 2) Spanning over 4.5 m	7 days 14 days
e) Removal of props under beams 1) Spanning up to 6 m 2) Spanning over 6 m	14 days 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.

2.2.23.4 Defective Concrete and Measurement of concrete:

2.2.23.5 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.

2.2.23.6 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 Structure		
S No	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

2.2.23.7 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.

2.2.23.8 Sampling and Strength Testing of Concrete:

2.2.23.9 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.

2.2.23.10 Sampling.

2.2.23.10.1 Frequency of Sampling

Sampling procedure: A random sampling procedure shall be adopted to ensure that each concrete batches 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, (M ³)	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 M ³ or part thereof

2.2.23.10.2 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.

2.2.24 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.

2.2.25 Acceptance Criteria of Concrete: Acceptance criteria shall be acceptance of concrete as per Clause No 16 of Annexure 4.2 of Indian Railway Unified Standard Specifications (Works & Materials), Volume I . Also refer criteria of concrete vide clause no 20.3.11.5 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.
- (ii) 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.
- (iii) 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.

2.2.26 Setting of field laboratory by the Contractor:

2.2.26.1 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 carryout the tests with his own equipments, 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.

2.2.26.2 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.

2.2.26.3 All gauges, machines, equipments and other measuring and testing equipments of the laboratory shall be got checked / calibrated regularly and the necessary certificates furnished to the Engineer by the Contractor.

2.2.26.4 All the equipments, machinery etc., shall be kept in good working condition. Contractor shall also maintain the required qualified / experienced staff at the laboratory.

2.2.26.5 The following is the minimum laboratory facilities at the site which are to be provided and operated by the contractor at his cost.

- (i) 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).

- 2.2.26.6 As frequently as the Engineer may require, testing shall be carried out in the field 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

2.2.27 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.

2.2.28 Expansion joints: Expansion joints – strip seal elastomeric type expansion joint shall be for 80mm expansion gap in RCC deck slab as per drawings.

2.2.29 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.

2.2.30 Drainage outlets: 50mm galvanized GI pipes in case of deck slab in bridges will serve as drainage spouts.

2.3 DELETED

2.4 GENERAL GUIDELINES AND SPECIFICATIONS FOR SUPPLY OF REINFORCEMENT AND STRUCTURAL STEEL

2.4.1 SUPPLY OF STEEL FOR VARIOUS WORKS:

Supply of steel to various specifications as required under various schedules in the contract are governed by the Technical specifications and Special Conditions specified hereunder. All steel shall be supplied by the Contractor at the site of work and stacked, stored, protected and maintained by him at his cost till they are put into use. Any temporary structure required for storage of steel etc., has to be provided by the Contractor at his cost and should be removed after completion of the work. The DFCCIL will only provide suitable land for construction of the above temporary shed free of cost wherever available.

For supply and use of steel in various works, relevant IRS Codes Specifications, IS Specifications and Railways specifications will be applicable.

2.4.2 SPECIFICATIONS FOR STEEL:

2.4.2.1 The steel supplied by the contractor must satisfy any of the material specifications as required for the work along with other concerned specifications. Relevant other IS and IRS Specifications with regard to properties, testing and use of the above steel items also shall govern.

2.4.2.2 The contractor shall produce the manufacturers test certificate for each lot of supply satisfying the requirements of relevant IS specifications and at the specific frequency as laid down.

2.4.2.3 The Contractor shall arrange to carryout additional tests on physical properties of steel structural steel at his cost. No extra payment will be made for conducting such tests and the agree mental rate is inclusive of above testing charges.

2.4.3 PROCUREMENT OF STEEL:

2.4.3.1 **Steel shall be procured only from those firms, which are Established, Reliable, Indigenous & Primary Producers of Steel, having Integrated Steel Plants (ISP),** using iron ore as the basic raw material and having in-house iron rolling facilities, followed by production of liquid steel and crude steel, as per Ministry of Steel's (Government of India) guidelines.

However, only certain isolated sections of structural steel, not being rolled by ISPs, can be procured from the authorized re-rollers of ISPs or authorized licensee of BIS having traceability system and who use billets produced by ISPs with the approval of Engineer.

2.4.3.2 The contractor shall have to submit the cash memo and challans along with the lot / batch of steel purchased in token of proof of purchase of steel from reputed dealers. Steel shall be approved by Engineer only after production of necessary certificates before use in works.

2.4.4 REINFORCEMENT AND STRUCTURAL STEEL:

Payment for supply of all types of steel shall be made for the quantity required / used as per the drawings issued from time to time. No payment will be admissible for quantity supplied in excess of the required quantity as per drawings. However, contractor will be permitted to take the excess quantity back by his own means, but no claim for payment for transportation so involved will be admissible. No payment will be made for more supply of steel at the site / excess used in Construction. No

payment will be made for steel used in temporary or enabling works unless explicitly provided for in the Schedules. Steel for enabling/temporary works shall be arranged by the Contractor at his own cost.

2.4.5 *ADVANCE PAYMENTS FOR STRUCTURAL STEEL:*

No Advance Payment shall be made. Any Stage payment found to be made against the materials brought to the site in excess over the actual materials consumed in work shall be recovered from the contractor dues.

2.4.6 *OTHERS:*

2.4.6.1 Reinforcement steel and structural steel, shall be stored in such a way so as to avoid distortion and to prevent deterioration by corrosion. All steel used should be free from loose Mill scale, loose rust, paints and oil covering / coating etc.

2.4.6.2 Steel material, for which stage payment has been availed by the Contractor, shall be property of DFCCIL and will be issued to contractor by Engineer whenever required for the work. Contractor will be solely responsible for guarding against theft / misuse of the consignment due to any cause what so ever. The stage payment will be made, only when the Engineer certifies that in his opinion that the materials are actually required in accordance with the contract. It is the responsibility of the agency to ensure that steel as per the requirement is brought to site as per approved drawings / requirements.

2.4.6.3 The contractor shall be bound to store the materials at site of work earmarked for the purpose by the Engineer and shall not remove from the site nor use for any other purposes than exclusively for execution of the work for which the materials are intended for. Safe guarding of the materials is the responsibility of the contractor even if the material is deemed to be owned by the DFCCIL and insurance etc., have been arranged by the contractor.

2.4.6.4 Contractor shall remove from site any steel materials rejected by the Engineer within reasonable time as specified by him.

2.4.6.5 Before the test pieces are selected, the Contractor shall furnish copies of the mill records of the reinforcement steel giving number of coils in each cast with sizes and identity marks to enable identification of the material with the bill produced.

2.5 Deleted

Technical Specification for Fire Fighting Work

Specification of supply, installation, testing& commissioning of Down Comer (fire fighting) System

- 1.0 The down Comer (firefighting) system shall have to be got approved from local fire authority by the contractor himself. After this only the down comer (fire fighting) system shall be taken over by DFCCIL.
- 2.0 **Compliance with regulations and Indian Standards:** -All work shall be carried out in accordance with relevant regulations, both statutory and those specified by the Indian Standards related to the works covered by this specification. In particular the equipment and installation will comply with the following: -
- i) IS Standards as applicable
 - ii) Workmen's Compensation Act.
 - iii) Local fire norms applicable.
 - iv) Any other regulation of Central Govt. and/or State Govt.
- 2.1 Nothing in this specification shall be constructed to relieve the successful tenderer of his responsibility for the design, manufacture and installation of the equipment with all accessories in accordance with currently applicable statutory regulation and safety codes.
- 3.0 **Painting:** -The tendered cost shall include cost of painting of entire exposed steel work in the complete installation, after two coats of anti-corrosive primer paint. Final finishing & painting shall invariably be done at site. One coat of final finishing of approved colour may be given to the entire installation after completing the work.
- 4.0 **Acceptable makes:** -The accepted makes for different items shall be as under:

Sr. No.	Item	Acceptable makes
1.	Pump	Kirloskar/Beacon Weir/Greaves/Peerless or similar
2.	Motor	Kirloskar/NGEF/Siemens/Crompton/ABB or similar
3.	MS Pipe	Jindal Hissar/TATA/Prakash Surya or similar
4.	CI Valves (Sluice & NR)	Kirloskar/Macneil/Major/Advance/Zoloto/Kartar or similar
5.	Gun metal valve	Divine/Sant/Leader ISI marked or similar
6.	MCCB	L&T/Siemens/ABB/GE/legrand or similar
7.	Cushy foot mountings	Dunlop or similar
8.	Batteries	Lucas/Excide/Standard/Amararaja or similar
9.	Selector switch	L&T/Kaycee/Sailzer or similar
10.	Indication lights	Concordd/vaishno or similar

11.	Ammeter/Voltmeter	AE/IMP or similar
12.	Pressure switches	Danfoss/Ranutrol or similar
13.	Motor starter	L&T/Siemens/GE/Cutler Hammer or similar
14.	Relays	L&T/Siemens/GE/Cutler Hammer/Crompton or similar
15.	CTs	AE/Kappa or similar
16.	Pressure gauges	Fei big/H.guru/Taylor/IRA or similar
17.	Armoured power cables	Universal/Gloster/Polycabb/Incabb/Asian/national or similar
18.	Control cables	Grandlay/National/Polycab or similar
19.	Dash fastener	Canco/hilti or similar
20.	Control Panel	CPRI approved
21.	Hydrant valves, Fire Brigade Inlet, Hose Coupling, Hose Reel Drum, Shut Off Nozzle, Branch Pipe	Minimax/Newage/Getech or similar
22.	Strainer	Jayper/dashmesh/Audco/Kartar/Zoloto or similar
23.	Enamel Paints	Asian/Goodlas Nerolec/Jenson Nicholsons or similar
24.	Rubber Hose Reel	Jyoti/Getech/Dozz or similar
25.	RRL Hose pipe	Jayshree/CRC/Getech/newage/Tulsi or similar
26.	Butter fly valve	Advance/Audco or similar
27.	Fire Alarm panel	System sensor/cooper/Agni or similar
28.	Ball valve	Zaloto/Danfoss or similar
29.	Wire & Flat Cable	Polycab/L&T/Finolex/Asian or similar
30.	Expansion Joint	Easyflex or similar
31.	Fire Extinguisher	Minimex/ safetech or similar
32.	Self-Contained Breathing apparatus	Draggar/ MSA/ Fenzey/Rsqe or similar

5.0 Technical specifications

5.0 Piping

5.1.1 only M.S. black steel pipes (IS marked) shall be used.

5.1.2 M.S. pipe up to 100 mm dia shall have all fittings as per IS: 1239 (heavy duty)

6.7.3 Any hangers and supports used shall be capable of carrying the sum total of all concurrently acting loads. They shall be designed to provide the required supporting effects and allow pipe lines movements as necessary.

6.7.4 Flanged joints shall be used for connections to vessels, equipments, flanged valves and also on suitable straight length of pipe line of strategic points to facilitate erection and subsequent maintenance work.

- 6.7.5 All pipelines shall be pressure tested to 10.5 kg / cm².
- 6.7.6 Pipes shall be given one primary coat of red-oxide paint before being installed pipes shall be sloping towards drain points.
- 6.7.7 Fitting shall be new and from reputed manufacturer. Fittings shall be of malleable casting of pressure ratings suitable for the piping system. Fittings used on welded piping shall be of the weld able type. Flanges shall be new and from standard manufacturers.
- 6.7.8 Tee-off connection shall be through reducing tees, wherever possible, otherwise ferrules welded to the main pipe shall be used. Drilling and tapping of the walls of the main pipe shall not be resorted to.
- 6.7.9 All equipment and valve connections shall be through flanges.
- 6.7.10 All welded piping is subject to the approval of the Engineer-in-charge and sufficient number of flanges and unions shall be provided.

6.8 Piping Installation

- 6.8.1 Piping shall be properly supported on C.C. base at suitable intervals or suspended by stands, clamps, hangers etc. as specified and as required. The tenderer shall adequately design all the supports, brackets, saddles, clamps, hangers etc. and be responsible for their structural integrity.
- 6.8.2 For suspending smaller size pipes suspension arrangements including materials like dash fasteners, saddles, brackets etc. shall be provided and fixed by the contractor undertaking this work.
- 6.8.3 Pipe supports shall be of steel, adjustable for height and primer coated with rust preventive paint and finish coated black. Where pipe and clamp are of dissimilar material, a gasket shall be provided in between. Pipe supports shall be spaced suitably keeping in view the site and structural requirements of different locations. Pipe hangers shall be fixed on walls and ceiling by means of dash fasteners.
- 6.8.4 All pipes using screwed fittings shall be accurately cut to the required sizes and threaded in accordance with IS: 554 and burs removed before laying. Open ends of the piping shall be locked as the pipe is installed to avoid entrance of foreign matter. Wherever reducers are to be made in horizontal runs, eccentric reducers shall be used if the piping is to drain freely, in other locations concentric reducers may be used.
- 6.8.5 Any item required to be welded/ Bragged to prevent the theft will be done by the contractor.
- 6.9 **Vibration elimination-** Piping installation shall be carried out with vibration elimination fittings wherever required.

6.10 Testing

- 6.10.1 All piping shall be tested to hydrostatic test pressure of 7.0 kg /



cm² or twice the designs pressure whichever is higher for a period of not less than 24 hours. All the leaks and defects in joints revealed during the testing shall be rectified to the satisfaction of the Engineer-in-charge.

- 6.10.2 Piping required subsequent to the above pressure test shall be re-tested in the same manner.
- 6.10.3 Systems may be tested in sections and such sections shall be securely capped.
- 6.10.4 The Engineer-in-charge shall be notified well in advance by the contractor of his intention to test a section of piping and the Engineer-in-charge or his authorized representative shall witness all testing.
- 6.10.5 The contractor shall make sure that proper noiseless circulation of fluid is achieved through the system concerned. If proper circulation is not achieved due to air bound connections, the contractor shall rectify the defective connections. He shall bear all the expenses for carrying out the above rectifications including the tarring –up and re-finishing of floors walls etc. as required.
- 6.10.6 The contractor shall provide all materials, tools, equipment, instrument, services and labour required to perform the test and shall ensure that the areas are cleaned up and spill over water is removed.
- 6.11 **Painting** -After the piping has been installed, tested and run for at least ten days, the piping shall be given two finish coats of approved colour. The direction of flow of fluid in the pipes shall be visibly marked in white arrows or as directed by the Engineer-in-charge.
- 6.12 **Pressure Switches**
- 6.12.1 The pressure switches shall be employed for starting and shutting down operation of pumps automatically, dictated by line pressure. The pressure switch shall be diaphragm type. It shall be suitable for line pressures up to 10kg/cm².
- 6.12.2 The switch shall be suitable for consistent and repeated operations without change in values. It shall be provided with IP:66 water and environment protection.
- 6.12.3 The enclosure shall be of aluminum and pressure element and wetted parts shall be of stainless steel. The switch shall be snap acting type with 1 number NO/NC contact.
- 6.13 **Air vessel and release valve**
- 6.13.1 The air vessel shall be provided to compensate for slight loss of pressure in the system and to provide an air cushion for counter acting pressure surges whenever the pumping set comes into operation. It shall be normally partly full of water, the remaining

being filled with air, which will be under compression when the system is in normal operation.

- 6.13.2 Air vessel shall be fabricated from 8 mm thick MS plate of 1.2 M height and 250 mm dia with dished ends and suitable supporting legs. It shall be provided with a flanged connection from pump, one 25mm drain with ball valve. The air vessel shall be hydraulically tested to twice the working pressure.
- 6.13.3 The air vessel shall also be provided with an air release valve mounted at the top.
- 6.14 **Hose Reel**-The Hose Reel shall be drum type. The rubber hosepipe shall be fixed on a drum that shall be fixed to the wall by means of a heavy- duty bracket.
The rubber tubing shall be of approved make. The wall-mounted bracket shall be fixed by means of fasteners. The Hose Reel shall have G.M. nozzle.
The Hose Reel shall be connected to the riser by means of 25 mm dia MS pipe with threaded bends, union etc as required. A cut off ball valve shall also be provided.
- 6.15 **External Hose Cabinets**- The cabinet shall be of minimum 2 mm thick MS sheet and framing of 25 x 25 x 4 mm thick angle section with single opening glazed doors (clear glass of 4 mm thickness). The glass shall be firmly fixed by means of steel clips and screws. Hinges shall also be screwed and not welded. The Hose Cabinet paint shall be stove enameled of approved colour.
- 6.16 **Hydrant**- Hydrant valve shall be of S.S as per IS: 5290. The valve shall be oblique type complete with hand wheel, quick coupling connection, spring and gun metal blank cap as per IS : 5290.
The Hydrant shall be constructed from SS and finished to a smooth polish on screwed ends. The Hydrant shall have screwed inlet of 75 mm dia, flanged type with 4 nos. holes. The outlet shall be 63 mm female instantaneous oblique type. The Hydrant shall have a plug with chain fixed body of the hydrant. The hydrant shall not leak at any screwed joint. Threaded parts shall be sealed with hold tight.
- 6.17 **Fire Bridage Inlet**-For Brigade, inlet connection shall be taken directly to the Down Comer. It shall comprise of two instantaneous male inlets coupling with plug and steel chain. The inlet shall have a water type non- return valve and a butterfly valve on the line up to the Down Comer. The fire Brigade inlet shall be complete with necessary components like special fittings of MS bend, flanged tees etc.
- 6.18 **Valve Pits (If require)** -A masonry pits of internal dimensions 1 M x 1 M x 1.2 M depth shall be built to accommodate each of the valves placed externally. Walls shall be of 75-class designation



brickwork in cement mortar 1: 6 (1 cement: 6 fine sand) with CI manhole cover with frame. Inside plastering with cement mortar 1: 3 (1 cement: 3 coarse sand) 12 mm thick finished with a floating coat of neat cement all complete.

6.19 **Couplings**-Coupling shall be of SS as per IS: 318, machined and polished to requirements. Both Male and female couplings shall be fitted into each other smoothly and without any unnecessary force. Couplings shall be IS: 903 marked with the name of the manufacturer. The Male couplings shall be provided with lugs for inserting female coupling.

6.20 **Non-Return Valve**-Non-return valve shall be cast iron swing action gravity actuated check type. An arrow mark in the direction of flow is marked on the body of the valve. The valve shall be as per IS: 531 certification.

The valve shall be of cast iron body and cover. The internal flap in the direction of flow of water shall be of cast iron and hinged by a hinge pin of high tensile brass or stainless steel. Cast iron parts shall be conforming to IS: 210 /70, grade 200/260 types.

The gasket shall be of high quality rubber and flap seat ring of leaded gun metal to BS 1400 LG 2 C. At high pressure of water flow the flapper shall seat tightly to the seat. The valve shall be capable of handling pressure up to 15 kg / cm².

6.21 **LT Cable Laying**Laying and commissioning of different sizes of cables in trench / under the road / under the track / along-with pole / wall / in air/cable tray/ already laid pipe. Before laying of cable the trench should be thoroughly checked for sharp ballast and stones so that the cable may not be damaged. Before and after laying the cable the IR value should be checked. While laying the cable care should be taken that no tree roots come on the way of cable, as it may damage the outside insulation of cable. Armouring at both ends of cable should be earthed. At termination point of cable aluminium lugs and Brass glands of suitable size and good quality shall be provided. Cable markers should be provided on both the sides/ each turn of the cable and at each 20 mtrs (The cost of cable marker are taken separately) and all bends. Bending radius of the cable shall not less than 16 times of dia of the cable. The trench shall be 35 cm. Wide and 75 cm and the cable should be laid in it and the cable shall be covered with bricks And the trench shall be refilled with soil available. Wherever the cable emerges out of the ground at least two loops of sufficient radius should be laid. Installation of cable along with wall / pole / underneath sheds wherever required shall be done with support of G. I. Saddles / J bolts of proper size / G. I. Pipe. The cost of G. I. Pipe are taken separately. Breaking of floor / wall / road and other civil structures

and repairing upto original condition, shall be done by the contractor, and no extra cost will be paid for it. Permission for crossing any road if required shall be arranged by the contractor in coordination of concerned DFCCIL supervisor, and all the expenditures will be borne by the contractor. Before and after laying of cable, IR value should be checked. Test report should be jointly signed by the contractor and concerned supervisor. All the instruments required for insulation testing/ high voltage testing shall be arranged by contractor at his own cost. Transportation of the cable is to be done by contractor from main depot to required site.

6.22 EARTHING

Pipe Earthing

The earthing shall be done with 3 mtrs long 50 mm B class G.I. pipe earth electrode with 12 mm dia holes around the pipe at a distance of 30 cms each with at least 50 kg charcoal and 10 kg salt (alternate layer of salt and charcoal). Earth electrode to be put vertically downward. The GI pipe should be tapered at one end. A brick cement / cement concrete enclosure shall be provided. Hot dip G.I. earth wire shall be used and connected from earth to main board/ meter board. The wire shall be run in 15 mm 'A' class G.I. pipe, along with wall / pole upto 1.5 mtr. The depth of 8 SWG wire in ground shall be minimum 30 cms . Value of each earth shall be measured after commissioning of earth. A plate of 14 SWG MS sheet size 150 x 100 mm painted with black enamel paint shall be fixed near the earth and following information shall be indicated

- (i) Earth No.
- (ii) Individual value of earth
- (iii) Date of testing. The earth pipe shall be provided with GI cap to prevent blocking of the pipe.

A cement concrete cover for each earth electrodes enclosure shall be provided with pull out handle. A G.I. cap is to be provided on the top of the pipe earth electrode in order to prevent the dust/garbage entrance in the pipe and avoid choking. The distance between two earths shall not be less than 2L.

ADDITIONAL TECHNICAL SPECIFICATIONS

- 1.1 The work is to be executed as per the direction of Engineer in charge. Item to be operated shall be as per the tender schedule & site condition. Decision of Engineering-in-charge or his representative shall be final and binding on the contractor. Tenderers are requested to visit the site of work before quoting the rates.
- 1.2 All construction materials to be used in the work shall be as per relevant IS specification wherever applicable.
- 1.3 Mixers of approved design shall be used for mixing cement concrete. Form surface vibrators of approved design and quality shall be used for the compaction of the same in RCC/CC work.
- 1.4 Specifications for the works given in the items of USSOR of NCR and DSR shall be followed. The standard specifications (works & material) received from NCR HQ Part I & II shall be followed.
- 1.5 The rates quoted by the contractor shall be deemed to be inclusive of all taxes, royalties, octroi etc. (Including GST)
- 1.6 Contractor shall take all care to avoid any damage to electric overhead or underground cable, telephone wires, water pipe line, sewerage system etc. Any damage to the railway/DFCCIL property on account of contractor's negligence shall be made good at contractor's cost.
- 1.7 In case any ambiguity between special conditions and general standard condition, special conditions shall prevail.
- 1.8 Contractor shall be responsible for the safety of his labour, machinery deployed on the work.
- 1.9 Contractor will be responsible for the safety of DFCC and railway property.
- 1.10 Contractor has to make all the safety arrangements and provide boards and banners of "work in progress" etc. and safety strips of sufficient length to make aware the Passengers and other users. No extra payment for the same shall be made.
- 1.11 During the currency of the contract any correction slip related with the items of USSOR of NCR is issued, the contractor shall be bound to accept the same. No extra claim what so ever shall be admissible in such cases.
- 1.12 All the tests required during the execution of USSOR items shall be got done by the contractor from Govt. laboratory or any other reputed private lab for which testing charges shall be borne by the contractor. No extra claim of payment whatsoever shall be admissible for such tests.
- 1.13 Work to be done in a very efficient manner and up to the entire satisfaction of Engineer in charge. Any defect pointed out by Engineer in charge shall immediately be rectified by the contractor without any extra cost.

2. Further Drawing and Instructions:

- (i) Chief General Manager/PRYJ (E), DFCCIL shall have full power to make and issue further drawings or instructions or direction from time to time as may appear necessary and proper to the contractor for efficient construction, completion and maintenance of the works. The contractor shall be bound by the same as fully as be if they had been mentioned or referred to in the contract, and the contractor shall not be entitled to any extra payment in respect of any work or materials shown or directed to be done supplied by such further drawings or instructions required for completion of unless the Chief General Manager/PRYJ (E), DFCCIL have given an extra order for the same in writing. The contractor shall be responsible for close scrutiny of the drawings.
- (ii) If the works are required to be done in Railway Yards and Tracks are to be crossed, the tenderer shall inspect the site and make himself thoroughly acquainted with site condition and quote rate considering these aspects.
- (iii) The work shall have to be done in such a manner that the normal working of the Railway within the railway yard does not get disturbed. No material/temporary structures should be kept adjacent to the running track which may infringe rail traffic. The contractor shall take necessary precaution to prevent/cause damage to the Railway property & staff during the execution of the work.

The contractor shall submit the detailed design and drawing of structure duly prepared by structural engineer with CAD file prior to start of the work. For this work nothing extra shall be paid to the contractor

Contractor to Study Drawing & Specification etc. and His Liability:

The contractor shall be responsible for close scrutiny of the approved drawings supplied by the DFCCIL, For any discrepancies, error or omission in the drawings or other particulars indicated therein, the contractor shall approach the DFCCIL immediately for rectification of indicated therein, the contractor shall approach the DFCCIL immediately for rectification of such discrepancies, errors and omission. If any dimension/figure/features etc. on approved drawings or plans differ from those drawings or plans issued to the contractors at the time of calling the tender, the dimensions as figured upon the approved drawings or plans shall be taken as correct.

3. Contractor to Submit his Time Table:

The contractor shall submit a monthly progress of work done during the month by the 4th day of the following month. He will also give the programme of coming month by 25th of each month. The programme will be subject to alteration at the discretion of the DFCCIL officials.

4. Any Doubted Points to be referred to the Chief General Manager, DFCCIL:

Should there be any doubt or obscurity as to anything to be done or not to be done by the contractor or as to these instructions or as to any matter or thing, the



contractor must set forth such doubt or obscurity in writing and submit the same to Chief General Manager/PRYJ (E), DFCCIL. Only such reply as the said Chief General Manager/PRYJ (E), DFCCIL may be in writing given shall be taken as the authoritative interpretation of the point in doubt or obscurity.

5. Contractor'(s) Liability:

Any fitting, accessory or apparatus which may not have been mentioned in this specification or the drawings, but which are usual or necessary in the execution of such work, are to be provided by the Contractor without extra payment. The whole work must be completed in all details, whether mentioned in this specification or not, with the exception of such work as has been specified in the schedule of items to be separately provided for in the Contract.

Notwithstanding the specifications and conditions stated in the contract, the contractor shall keep the Engineer/ Employer authority fully indemnified and free from all liabilities and risks consequential to any lapse on his part in respect of material quality, standard of workmanship, accuracy of fabrication and the like. He shall provide all labour and material required for execution of the work as per all standards and specifications.

6. DFCCIL desires that successful contractor should establish (at his own cost) the fabrication workshop near the site only for close monitoring of all the quality aspects of this contract work. Contractor's request for establishing workshop/using workshop proposed/located away from the bridge site shall require prior approval.
7. Contractor shall establish fully equipped laboratory for all the tests required on materials/processes/products as per provisions of the contract, Specifications and the direction/approval of the Engineer. Costs of these are deemed to be included in the quoted rates. Prior approval of the engineer shall be obtained for non-installation of such testing equipment's which cannot be installed in normal course due to any reason. However, engineer's decision (for installation and non-installation) in this regard shall be final binding and conclusive.

8. Site Facilities by the Contractor:

Contractor shall provide office / site facilities at the approach site / other locations for ensuring smooth and efficient communication and work execution. Cost of these facilities deemed to be included in the quoted rates and nothing extra shall be paid for this item.

Contractor shall (at his own cost) depute / nominate safety officers(s) for supervising safety aspects of all works/process including enabling arrangements for execution and inspection of the work. Safety systems/arrangements should be made for each activity of fabrication/erection and its inspection and same should be certified by nominated safety officer.



9. SAFE WORKING METHODS:

- 9.1 All or some of the works executed under this contract involve works on or alongside the Railway /DFCCIL track on which the railway/DFCCIL traffic is kept operative during or immediately after the completion of one or more phases of the contract work. In view of this position maintaining safe working conditions at the work site at all times for the safe passage of the train traffic is a primary over-riding condition required to be fulfilled by the contractor at all times.
- 9.2 For this purpose, it is understood and agreed to by the contractor that the work executed by him under this contract shall at all times fulfill all the safety conditions in force on the railway from time to time to operate the train traffic.

10. PROTECTION OF THE WORK SITE

- 10.1 On railway track where the train traffic will be operational during the execution of the contract work the protection of the works site as considered appropriate and adequate shall be arranged by the Engineer's Representative at the Railway's cost.
- 10.2 Contractor shall be responsible for providing appropriate and adequate system for warning the contractor's workmen about the train traffic on or in the vicinity of the site of work
- 10.3 The contractor shall remain fully responsible for ensuring safety & in case of any accident, shall bear cost of all damages to the equipment & men and also damages to railway & its passengers.

1.5.1 Deployment of Qualified Engineers at Work Sites by the Contractor

The contractor shall submit the list of engineers / technical staff with charter of duties / responsibilities of each one related to execution of the work within 30 days of issue of Letter of Acceptance (as given below) and deploy the same at work site, else recovery will be made from the contract as detailed below:-

Requirement of technical representative(s) and recovery rate						
S. N.	Minimum Qualification of Technical Representative	Designation of Technical Staff	Minimum experience	Number	Rate at which recovery shall be made from the contractor in the event of not fulfilling the provision	
					Figures	Words.
1.	Graduate Engineer	Project Manager	15 years (and having experience of one similar nature of work)	1 No.	Rs. 60,000/- Per Month	Rs. Sixty thousand Per Month.
2.	Graduate Engineer or Diploma Engineer	Project Planning/Site Engineer/ Billing Engineer/ Quality Engineer	5 Years or 10 Years respectively	1 Nos.	Rs. 30,000/- Per Month	Rs. Thirty thousand Per Month.

3.	Graduate Engineer/ Diploma Engineer	Electrical Engineer/ SHE Engineer	6 Years	1 No.	Rs. 30,000/- Per Month	Rs. Thirty thousand Per Month.
<p>Assistant Engineers retired from Government services that are holding Diploma will be treated at par with Graduate Engineers.</p> <p>Diploma holder with minimum 10 year relevant experience with a reputed construction company can be treated at par with Graduate Engineers for the purpose of such deployment subject to the condition that such diploma holders should not exceed 50% of requirement of degree engineers.</p>						

1.5.2 Experience to carry out Electrical Work:- Either tenderer himself should have executed work of electrical wiring of multi-story buildings with lighting, have executed AC/HVAC work, have provided lifts and firefighting arrangement in a multi-story building completed in last three financial years and current financial year separately for minimum value of 35 % of the each similar nature of work for the schedule given below:-

OR

Main tenderer will associate his/their associated electrical contractor/contractors to carry out the electrical work for Lift work , wiring work, Pump work, Power Distribution Arrangement, Power supply arrangement and cable shifting, Fire Fighting System, AC/HVAC work. Main tenderer can associate different electrical sub-contractors to carry out the electrical works having the requisite experience of similar nature of work of each schedule separately.

Main Tenderer or associated electrical contractor/contractors should have completed at least one similar nature of work given for each schedule as given below at (a), (b), (c) & (d) in last three financial years and current financial year, for a minimum value of 35 % of the each similar nature of work as under, for different schedules as in tender schedule separately:-

- (a) Should have executed electrical wiring of multi stored buildings with lighting.
(Any work related HT & LT installation)
- (b) Should have executed the firefighting work. **(Any work of Fire Fighting work)**
- (c) Should have executed the work of AC/HVAC **(Any work of AC/HVAC)**
- (d) Should have executed the work of installation * commissioning of lifts/Escalators.
(Any work of Lifts/Escalators.)
- (e) The Main/associated electrical contractor for schedule should have received contractual payment at least 150 % of Electrical schedules in last three financial years and current financial year.
- (f) If the tenderer engages associate electrical contractor, he /they is/are required to submit legally enforceable agreement duly signed with the associated electrical contractor, before starting work of particular schedule in the form of MOU as per proforma-I of tender document. MOU must be on the non-judicial stamp paper duly notarized of Rs. 100/- or as per the stamp Act of the concerned State.
- (g) The main tenderer shall be responsible for acts of commission and omission of the associate electrical contractor. The entire electrical work is to be executed by the associate



electrical contractor only and no change shall be allowed in associated electrical contractor during currency of the contract at later stage. However in case of any force majeure, competent authority may permit another eligible associate electrical contractor.

- (h) Electrical items will be used as per the list of standard make for power supply and General Service items/Equipment as enclosed with tender document.



PROFORMA MOU

CERTIFICATE FOR ASSOCIATE ELECTRICAL CONTRACTOR WHICH THE MAIN CONTRACTOR PROPOSED TO ASSOCIATE

1. This is certified that we have not deviated from the technical specifications and commercial provisions provided in the tender.
2. The price bid is unconditional.
3. This is certified that we have engaged M/s

.....

As Electrical contractor for work of schedule.....as detailed below.

- (i) Name of contractor
- (ii) Address.....
- (iii) Class of registration
- (iv) Experience of similar nature of work.....
(Certificates to be attached)
- (v) Financial credentials, for 150% of contractual payment received.....
(Certificates to be attached)
- (vi) Validity on registration.....
- (viii) Licensed No. with validity.....

CONSENT LETTER

I hereby give my consent to work as electrical contractor till the completion of work. I will be responsible for necessary action to hand over the installation and for rectification of defects and repair during the maintenance period. I will execute the work as per DFCCIL specifications and additional conditions of the contract. I will also engage suitable Engineers for the work as per condition of the contract. I further certify that above particulars pertaining to me are correct.

Signature of Main Contractor

Signature of Associate Electrical Contractor

Eligibility Criteria



Schedule B (Annexure II)

SAFETY PRECAUTIONS DURING EXECUTION OF WORK

SAFETY RULES

[Para 25(ii)]

1. Suitable scaffolds should be provided for workmen for all works that cannot safely be done from the ground or from solid construction except such short period work as can be done safely from ladders. When a ladder is used an extra labourer shall be engaged for holding the ladder and if the ladder is used for carrying materials as will, suitable foot-holds and hand holds shall be provided on the ladder and the ladder shall be given an inclination not steeper than one horizontal to four vertical.
2. Scaffolding or staging more than 3.5 metres above the ground or floor swung or suspended from an overhead support or erected with stationary support shall have a guard rail properly attached bolted, braced and otherwise secured above the floor or platform of such scaffolding or staging and extending along the entire length thereof with only such opening as may be necessary for the delivery of materials. Such scaffolding or staging shall be so fastened as to prevent it from swaying from the building or structure.
3. Working platform gangways and stairways should be so constructed that they should not sag unduly or unequally, and where the height of the platform or the gangway or the stairway is more than 3.5 meters above ground level or floor level, they should be closely boarded, should have adequate width and should be suitably fastened as described in the Para above.
4. Safe means of access shall be provided to all working platforms and other working places. Every ladder shall be securely fixed. No portable single ladder shall be over 10 meters in length while the width between side rails in swung ladder shall in no case be less than 300 mm for ladder up to and including 3.5 meters in length. For longer ladders this width should be increased by at least 20 mm for each additional meter of length. Uniform steps spacing shall not exceed 300 mm. Adequate precautions shall be taken to prevent danger from electrical equipment. No materials on any of the sides of work shall be so stacked or placed as to cause danger for inconvenience to any persons or the public. The contractor shall provide all necessary fencing and lights to protect the public from accident, and shall be bound to bear the expenses of defense of every suit, action or other proceedings at law that may be brought by any persons for injury sustained owing to neglect of the above precautions and to pay any damages and cost which may be awarded in any such suit, action or proceedings to any such persons or which may with the consent of the contractor be paid to compromise any claim by any such person.
5. Before any demolition work is commenced and also during the process of the work: -



- a. All roads and open areas adjacent to the work site shall either be closed or suitably protected.
 - b. No electric cable or apparatus which is liable to be a source of danger over a cable or apparatus used by the operator shall remain electrically charged.
 - c. All practical steps shall be taken to prevent danger to persons employed from risk of fire or explosion of flooding. No floor, roof or other part of the building shall be so overloaded with debris or materials as to render it unsafe.
6. All necessary personal safety equipment as considered adequate by the Engineer-in-charge should be kept available for the use of the persons employed on the site and maintained in a condition suitable for immediate use and the contractor should take adequate steps to ensure proper use of equipment by these concerned.
- a. Workers employed on mixing asphalt materials, cement and live mortar shall be provided with protective goggles.
 - b. Those engaged in white washing and mixing or attaching of cement bags or any materials which is injurious to the eyes shall be provided with protective goggles.
 - c. Those engaged in welding works shall be provided with welder's protective eyesight lids.
 - d. Stone breakers shall be provided with protective goggle and protective clothing and seated at sufficiently safe intervals.
7. In case the contractors have to ply vehicles for the purpose connected with the contract adjacent to Railway track, the Railway Administration will be at liberty to post an experienced staff as flag man for guidance of the movements of such vehicles so as to prevent accidents and the contractor will bear wages including all etc. of the staff posted as flag man for the period of Contract for such periods during which such staff is posted for the purposes. The Rly. Administration will be sole judge in the absolute discretion, of the fact that it is necessary to post any staff, that which of the staff will be suitable for the purpose, that what should be the wages and other allowance payable by the contractor for staff posted for the purpose. The Rly. Administration will have a right without prejudice to other remedies to deduct the wages etc. of such staff from the bills of the contractor in respect of this contract or from any moneys or the contractor, whatsoever, available with the Railway Administration. The contractor will be liable for any over payments under Workman Compensation Act on account of any injury sustained to Railway servant during that period.
8. When the work is done near any place where there is risk of drowning, all necessary equipment should be provided and kept ready for use and all necessary steps taken for prompt rescue of any persons in danger and adequate provision should be made for prompt first aid treatment of all injuries likely to be sustained during the course of the work.
9. Use of hoisting machines and tackle including their attachment anchorage and supports shall confirm the following standards or conditions:

- (a) These shall be of good mechanical construction, sound materials and adequate strength and free from patent defect and shall be kept in good repair and in good working order. Every rope used in hoisting or lowering materials or as a means of suspension shall be of durable quality and adequate strength and free from patent defects.
- (b) Every Crane Driver or hoisting appliances operator shall be properly qualified and no person under the age of 21 years shall be in-charge of any hoisting machine including any scaffolding.
- (c) In case of every hoisting machine and of every cabin ring, shackle, swivel and pulley block used in hoisting or as means of suspension, safe working load shall be ascertained by adequate means. Every hoisting machine and all gear referred to above shall be plainly marked within the safe working load.

In case of a hoisting machine having a variable safe working load, each safe working load of the conditions under which it is applicable shall be clearly indicated. No part of any machinery or any gear referred to above in this paragraph shall be loaded beyond the safe working load except for the purpose of testing.

- (d) In case of departmental machine, the safe working load shall be notified by the Electrical Engineer-in-charge. As regards contractor's machines, the contractor shall notify safe working load of the machine to the Engineer-in-charge whenever he brings any machinery to site of work and get it verified by the Electrical Engineer concerned.
10. Motors, gearing transmission, electric wiring and the dangerous part of hoisting appliances should be provided with efficient safe guards. Hoisting appliances should be provided with such means as will reduce to the minimum, the risk of accidental descent of the load. Adequate precautions should be taken to reduce to the minimum, the risk of any part of a suspended load becoming accidentally displaced. When workers are employed on electrical installations, which are already energized insulating mats, wearing apparel, such as gloves, sleeves and both as may be necessary should be provided. The workers should not wear any rings, watches and carry keys or other materials, which are good conductors of electricity.
 11. All scaffolds, ladders and other safety devices mentioned or described herein shall be maintained in safe condition and no scaffold ladder or equipment shall be altered or removed while it is in use. Adequate washing facilities should be provided at or near places of work.
 12. These safety provisions should be brought to the notice of all concerned & displayed on a notice board at a prominent place at the work spot. The persons responsible for compliance of the safety code shall be named herein by the contractor.
 13. To ensure effective endorsement of the rules and regulations relating to safety precautions, the arrangements made by the contractor shall be open to

inspection by Labour Officer/Engineer-in-charge of the Department or their representative.

14. Notwithstanding the above clause from (1) to (12) there is nothing in these to exempt the contractor from the operation of any other act or Rule in force in the Republic of India.

GIST OF SAFETY INSTRUCTION

1. The instructions/guidelines regarding safety at work site issued from time to time can be seen in **the Office of Chief General Manager, Prayagraj (E)** at any time during office hours. The successful tenderer shall obtain copy of hand book and copies of instructions/guidelines on safety at construction worksite issued by DFCCIL Organization free of cost from his office on award of contract and religiously follow all safety instructions prescribed therein to see that the work is executed in a safe manner. Work shall be executed ensuring safety as per the latest instructions / guidelines issued time to time by Railway Board/ Central Railway Head Quarter office.

2. Safe working of contractors (Extract of para 826 of IRPWM) :-

2.1. A large number of men and machinery are deployed by the contractors for track renewals, gauge conversions, doublings, bridge rebuilding etc. It is therefore essential that adequate safety measures are taken for safety of the trains as well as the work force. The following measures should invariably be adopted.

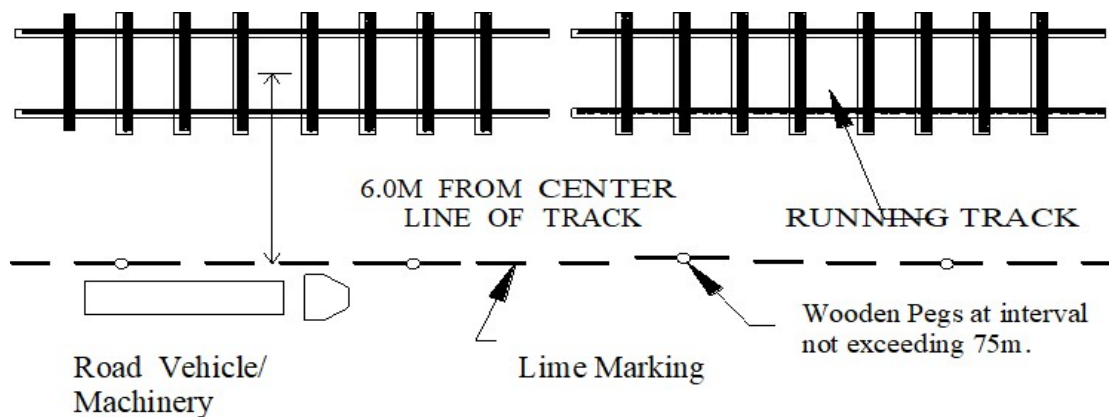
- (i) The contractor shall not start any work without the presence of railway supervisor at site.
- (ii) Wherever the road vehicles and/or machinery are required to work in the close vicinity of railway line, the work shall be so carried out that there is no infringement to the Railway's schedule of dimensions. For this purpose, the area where road vehicles and/or machinery are required to ply, shall be demarcated and acknowledged by the contractor. Special care shall be taken for turning/ reversal of road vehicles/machinery without infringing the running track. Barricading shall be provided wherever justified and feasible as per site conditions.
- (iii) The look out and whistle caution orders shall be issued to the trains and speed restrictions imposed where considered necessary. Suitable flagmen/detonators shall be provided where necessary for protection of trains.
- (iv) The supervisor/workmen should be counselled about safety measures. A competency certificate to the contractor's supervisor as per Performa annexed shall be issued by Authority Engineer which will be valid only for the work for which it has been issued.
- (v) The unloaded ballast/rails/sleepers/other P-Way materials after unloading along track should be kept clear off moving dimensions and stacked as per the specified heights and distance from the running track.
- (vi) Supplementary site specific instructions, wherever considered necessary



shall be issued by the Authority Engineer.

2.2. PLYING OF ROAD VEHICLES AND WORKING OF MACHINERIES CLOSE TO RUNNING TRACKS

- (i) Normally, the road vehicles shall be run or machinery shall be worked so as not to come closer than 6.0m from centre line of nearest running track.
- (ii) The land strips adjacent to running tracks, where road vehicle is to ply or machinery is to work, shall be demarcated by lime in advance in consultation with the Railway's Supervisor. Wooden pegs at interval not exceeding 75mts shall be provided along the line marking as permanent marks. The road vehicles shall ply or machinery shall work so as not to infringe the line of demarcation.



- (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 centreline of track.
 - b. Demarcation of land shall be done by bright coloured ribbon/nylon cord suspended on 75 cm high wooden/bamboo posts at distance of 3.5 m from centreline of nearest running track.
 - c. Presence of an authorized Railway's representative shall be ensured before plying of vehicle or working of machinery.
 - d. Railway's Supervisor shall issue suitable caution order to Drivers of approaching train about road vehicles plying or machineries working close to running tracks. The train drivers shall be advised to whistle freely to warn about the approaching train. Whistle boards shall be provided wherever considered necessary.
 - 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.
 - 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 Railway's Supervisor shall be ensured at worksite.
- c. Railway's Supervisor shall issue suitable caution order to Drivers of approaching train about road vehicles plying or machineries working close to running tracks. The train drivers shall be advised to whistle freely to warn about the approaching train.

(v) Precaution to be taken while reversing road vehicle along side the track.

The location where vehicle will take a turn shall be demarcated duly approved by Railway's representative. The road vehicle driver shall always face the Railway track during the course of turning/reversing his vehicle. Presence of an authorized Railway representative shall be ensured at such location.

- (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 Railway'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.

2.3 EXECUTION OF WORKS CLOSE TO OR ON RUNNING LINES

- (i) Any work close to or on running tracks shall be executed under the presence of a Railway's Supervisor only.
- (ii) Precaution to be taken to ensure safety of trains while execution of work close to the running line or on running lines.**
 - a. Such works shall be planned and necessary drawings particularly with regard to infringement to moving dimensions shall be finalized duly approved by competent authority before execution of work. The work shall be executed only as per approved procedure and drawings.
 - b. All temporary arrangements required to be made during execution of work shall be made in such a manner that moving dimension do not infringe.

- c. Suitable speed restriction shall be imposed or Traffic block shall be ensured as required.
 - d. The site shall be protected as per provisions of Para No. 806 & 807 of Indian Railway P-Way Manual as case may be
 - e. Necessary equipment for safety of trains during emergency shall be kept ready at site.
- (iii) **Fencing at work:** Contractor(s) while executing the work of doubling, yard remodelling etc. shall provide suitable fencing/barricading to protect/segregate the existing Railway line from any damage and un-toward incident, as per the directions or plan approved by Engineer-in-charge. No work will be started till the fencing/barricading is provided and clearance in writing is issued by the Authority Engineer.
- (iv) **Precaution to be taken to ensure safety of electrical/signal/ telephone cables while excavating near tracks.**

Electrical cables and signaling cables are running along the railway line. Care shall be taken to protect such cables during execution and vehicle movements. Contractor shall take all required precautions as prescribed in Joint Procedural order for undertaking digging work in the vicinity of underground signalling, electrical and telecommunications cable as per the instruction of Engineer in Charge. Successful tenderers shall obtain the copy of this order before commencement of work for their guidelines and ensuring strict compliance.

In case damage is caused to OFC/QUAD cable during execution of the work, the contractor is liable to pay a penalty for damaging the cable. Penalty shall not be levied in case of the following.

- i. Detailed cable route plan not provided by concerned department or cable is not protected as per laid down procedures.
- ii. The alignment of the cable does not tally with the information provided to the contractor.
- iii. No representative of S&T department/Railtel was available at site guarding the cable on the fixed pre-determined date and time.

Penalty to be imposed for damages to cable from the contractor due to default on the part of contractor shall be as under. The decision of Engineer-In-Charge on fixing up of responsibility on contractor on this account will be final and binding on the contractor.

(v) Precaution to be taken during execution of works requiring traffic blocks.

- a. Any work, which infringes the moving dimensions, shall be started only after the traffic block has been imposed.
- b. Before closing the work, the track shall be left with the proper track geometry so that the trains run safely.
- c. After completion of work the released sleeper and fittings should be properly stacked away from the track to be kept clear of moving dimensions.
- d. Block shall be removed only when all the temporary arrangement, machineries, tools, plants etc. have been kept clear of moving dimensions.

(vi) 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.

(vii) Precautions to be taken to ensure safety of workers while working close to running lines.

- a. Necessary lookout men with red flags and whistles shall be provided to warn the workmen about the approaching train.
- b. Railway's supervisor shall issue suitable caution order to Drivers of approaching train for whistling to warn the workers about the approaching train. Whistle boards shall be provided wherever considered necessary.
- c. A "First aid kit" shall always be kept ready at site.

(viii) 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.

(ix) Precaution to be taken before stacking materials alongside the track to ensure that safety of trains is not affected.

The following precautions shall be taken before stacking the materials along the track for stacking of ballast, rails, sleepers etc.

- a. The sites for material stacking should be selected in advance in such a manner as to ensure that no part of the material to be stacked is infringing the Standard Moving Dimensions. A plan of proposed stacking locations be made and signed jointly by an authorized Railway's representative and contractor's representative.
- b. The selected locations shall be marked by lime in advance.
- c. Presence of an authorized Railway's representative while unloading and stacking shall be ensured.
- d. The material shall be stacked in such a height so as to not to infringe SOD in case of accidental roll off.

2.4 PROTECTION OF TRACK DURING EMERGENCY

(i) Arrangement of lookout men and competency required for lookout man to warn labour about approaching train.

- a. Contractor will provide lookout men.
- b. The lookout men shall be properly trained in warning to staff at worksite about approaching train.
- c. Only those lookout men shall be provided at site who have been issued with a competency certificate by the Railway's Supervisor.
- d. In case, it is felt necessary to provide lookout men by Railway, the charges for the same as fixed by Railway Administration shall be recovered from Contractor.

(ii) Training to Supervisors and Operators of Contractor.

The Supervisors and Operators of the contractor proposed to be deployed at work site, which is close to the running track, shall be imparted mandatory training by the Railway 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 Railway training institute, the charges for the same, as decided by Railway, shall be recovered from contractor. A competency certificate to this effect to the individual Supervisor/Operator shall be issued as given below, by a Railway Officer not below the rank of Assistant Officer. No Supervisor/Operator of the Contractor shall work or allowed to work in the vicinity of running track that is not in possession of valid competency certificate.

All the labour, materials, tools, plants etc. except detonators, required for ensuring safe running of trains shall be provided by Contractor at his own cost. Wherever lookout men are provided by Railway, charges at the rate of Rs. 500/- per man day shall be recovered from Contractor.

- (iii) Protection of existing bank: In case of excavation of ground/bank for foundation or for any other purpose near the existing bank, adequate protection measures

like shoring etc shall be taken by the contractor at his own cost. However in case elaborate protection in the form of concrete/rail piles is required, especially bank protection for bridges, the design shall be got approved. The requirement of protection shall be decided by the engineer.

- (iv) During execution of the work, contractors shall ensure that all safety precautions are taken by their men to protect themselves and site to prevent any untoward incident. In this regard contractor will ensure that adequate number of safety helmets, safety belts, safety jackets with reflective arm band, rope, ladders emergency light etc. are available at site before the work is actually started. The above list is only indicative and is not exhaustive and safety item will be arranged as per the requirement. Railway reserve the right to stop the work in the absence of proper safety gear and no claim shall be entertained in this regard. Decision of the Engineer-in-charge will be final and binding upon the contractor. The cost of all the safety gear is deemed to have been included in the rates quoted and nothing extra is payable under this contract.
- (v) The contractor shall protect and support, as may be required or as directed by the Engineer, all building, fences, walls, towers, drains, road paths, waterways, foreshores banks, bridges, Railway ground and overhead electric lighting, the telegraphs/ telephones and crossing water service Main pipes and cables and wires and altogether matters and things of whatever kind not otherwise herein specified other than those specified or directed to be removed or altered which may be interfered with or which likely to be affected disturbed or endanger by the execution completion of maintenance of the works and shall support provided under this clause to such cases as directed by the Engineer. No payment shall be made by the Railway to the contractor for these works on account of delay for re-arrangement of road traffic or in the contractor having to carry out the short lengths and in such places as per conditions and circumstances may warrant. These will not form the basis of any claim and or dispute for compensation of any kind.

3. Safe working of Road cranes for launching of Girders / LHA.

(Railway Board's letter No. 2015/CE-IV/RUB/206 dated 11.08.2016)

- i. Based on site conditions i.e. maximum boom length and operating radius, safe working load of crane shall be assessed which should be more than 1.5 times of load to be handled.
- ii. Before actually commencing the work near track, trial at site shall be done by actually lifting the heaviest segment to be tackled with required boom length and required operating radius. Once, the trial is successful, then only crane shall be brought to site of actual work.
- iii. The stability of slope under imposed load of crane prop under worst loading conditions and point nearest to edge of slope shall be checked. The location of prop, locations of working of crane and other relevant factor shall be clearly indicated on plan.

- iv. At locations near crane propping, the strengthening of slope by driving the rails/Sal Balli Piling shall be done to prevent any chance of slope failure. Also, the proper compaction / strengthening of soil at prop location shall be done to prevent any settlement of prop.
- v. Stone/quarry dust may be filled by side of precast units with hand compaction before restoring train.
- vi. The contractor shall fully responsible for ensuring safety and in case of any accident, shall bare cost of all damages to this equipment and men and also damages to railway and its passengers.
- vii. Assistant Officer/Sr.Scale Officer shall issue competency certificate after checking license and their working to all diver of nominated vehicles/machinery. Inspector at site shall ensure that the driver who does not possess competency certificate will not work at site.
- viii. Vulnerable locations where construction work adjacent to running line can cause accident should be protected by suitable strong barrier which should be included as a paid item in contract schedule. This location should be decided by Executive Engineer in-charge of the work at the beginning of construction and intimated to contractor in writing. The barrier should be painted with retro reflective paint at suitable interval to give warning at night.

<u>IDENTITY CARD OF RAILWAY CONTRACTOR'S LABOUR</u>	
I.	Sr.No.
	<u>Space for Photo</u>
II.	Name of Establishment:
III.	Name of Contractor:
IV.	Name of Contract Worker with address.
V.	Signature of Card Holder:
VI.	Signature on Contractor on the Photograph with his seal:
(Countersigned by concerned Sr. Supervisor of Railway)	Validity date of Identity Card.

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



SCHEDULE - C
(See Clause 2.1)

PROJECT FACILITIES¹⁸

1. Project Facilities

The Contractor shall construct the Project Facilities in accordance with the provisions of this Agreement. Such Project Facilities shall include:

Civil works,

The Contractor shall construct the Project Facilities in accordance with the provisions of this Agreement. Such Project Facilities shall include:

1. Contractors office/ Camp
2. Contractors temporary facilities and labour camp.
3. Survey equipment
4. Project network with project monitoring software like MS project along with e-mail facilities and mobile communication network for project monitoring.

2. Description of Project Facilities

2.1. GENERAL

2.1.1. All the facilities under this clause will continue to be maintained by the Contractor free of cost till the Defect Liability Period is over.

2.2. SITE OFFICES : Office Facilities for the Use by Authority and Authority Engineer shall be provided as below:

2.3. Contractor's Office Establishment (Out Side Railway Land Premises at his own Cost)

1. Contractor's camp:

Detailed drawings at scale 1:500 showing the camp layout, buildings, road recreation areas, all public utilities, etc., and drawings at scale 1:50 showing type building construction details with specifications

2. Offices, parking areas, warehouses, storage areas, and medical care services: Drawings and specifications for the establishments and facilities with appropriate details and First Aid Station.
3. Water supply, sewerage, sewage treatment and disposal, power supply and illumination, communication services (basically mobile phones and land phones), firefighting services
 - (a) Detailed Drawing for industrial and potable water supply to the camps and working areas as well as sewerage systems, sewage treatment and disposal system based upon estimated number of users.
 - (b) Detailed layout drawings for electrical installations and distribution



system at the Site and Work Areas, showing power sources, voltages, outlets, and routing of power lines

4. Access routes including temporary road works to all locations necessary to be reached in the course of construction in the Site and the Work Areas including public road diversions
5. Equipment pools and mechanical workshops
6. The detailed plan for operation of the Borrow Areas and Quarries as detailed hereinafter including approach roads
7. The Stockpile areas as detailed hereinafter including approach roads.
8. Concrete batching & mixing plant and crushing plants, including cement storage:

Detailed drawings including manufacturer's drawings and foundation drawing with the supporting design calculations prepared by the Contractor for concrete batching & mixing plant and crushing plants in accordance with the requirements of the pertinent provisions of the Specifications.

9. Fabrication Yard, Casting Yard including casting bed, lifting, curing and stacking system for pre-cast concrete elements along with the supporting design calculations and drawings
10. Transporting, handling and launching system for the precast concrete elements / steel fabricated elements including design and drawings for launching truss / girder etc.
11. Material testing laboratories

Detailed breakdown of all equipment to be used for material testing in field and in laboratories in accordance with the requirements of the pertinent provisions of the Specifications.

12. Security and safety arrangements
13. All arrangements shall comply with the relevant provisions.
14. Layout and drawings for offices for the Authority's and the Authority Engineer's staff.
15. Project Sign boards and diversion boards.
16. Barricades and other temporary walls and alike with pertinent design considerations & drawings containing details such as height, material, colour scheme, Logo, anchoring mechanism etc. complying the requirements.

2.4. First Aid Stations

- (1) The Contractor shall comply with the applicable laws and health standards



presently in force in India. In the event of an epidemic breaking out, the Contractor shall carry out and comply with all orders, arrangements or regulations which may be issued by the Government or local authorities.

(2) The Contractor shall construct, equip, and maintain the First Aid Station at adequate locations on the Site and at each and every camp.

(3) These facilities shall be fully equipped and staffed as per the applicable regulations in force. These facilities shall be available and fully operational within 120 days after the Appointed Date and maintained in good conditions until the issue of Taking-Over Certificate unless otherwise authorized by the Authority Engineer.

(4) Medical services in the First Aid Stations shall be under the direction of a licensed doctor and nurses on the same working hours as the Works throughout the duration of the construction.

(5) Standing arrangements shall have to be made with the nearest general hospital for providing treatment in case of emergencies and serious cases.

The Contractor shall summarise the design of all his Temporary Facilities in the Temporary Works Design Report and Drawings.

2.5. Temporary Utility Services for the Contractor's Use

Power Supply and Illumination

(1) The electric power supplies for the Temporary Facilities including but not limited to Contractor's camps, offices, Site, Work Areas and other facilities as described herein shall be arranged by the Contractor at his own cost. If water & Electricity connections are available and provided to the Contractor for Project facilities, they will be charged as per the extant rules of Railways.

(2) The Contractor shall install, operate and maintain its own electrical distribution systems for the power supply for his Temporary Facilities including Site, Work Areas.

(3) The Contractor shall also furnish, install and keep operational the diesel power generating facilities of such capacity what he considers necessary to prevent the interruption of the Works.

(4) The Contractor shall ensure adequate illumination for all his operations at the Site and at the camp.

Water Supply

(1) The Contractor shall design, install, operate and maintain water supply systems including pumps, piping system, valves, storage tanks etc, at the Site with respect to:

(a) Industrial water supply system;

For construction use meeting the quality requirements as specified in Specifications



(b) Potable water supply system :

For supply to all the Temporary Facilities including but not limited to Contractor's camps, offices, Site, Work Areas and other facilities for human consumption and use

In case the Contractor plans to install bore well for water supply, he shall thoroughly investigate the relevant legislation and regulations imposed by the competent authorities and the installation shall be subject to approval by the said competent authorities and/or consent of the Authority Engineer.

- (1) Throughout the duration of the construction, the Contractor shall take samples from all water supplies at regular intervals and test it for its suitability for the intended use.

Sanitation and Sewerage

(1) All Sites, offices, workshops, laboratory, camp and other buildings etc. shall be provided with sanitation and sewage handling & disposal system complying with the statutory requirements and applicable laws, Codes & Standards .

(2) If required, portable chemical toilets shall be provided and maintained by the Contractor for the use of all personnel at all work locations .

Waste and Garbage Disposal

(1) The Site and the Work Areas shall be kept clean and free of refuse at all times.

(2) The Contractor shall collect waste material and garbage from Site, camp, office, yards and workshops on a daily basis and dispose off the same in the approved area and as per the guidelines prescribed by the local authorities. No waste of any kind shall be deposited in any watercourses .

Fencing and Site Security and Safety

(1) The Contractor shall be responsible for the security and safety of site. Accordingly the contractors offices ,workshops, and storage compounds, campsites, all construction areas, storage areas shall be adequately fenced, gated, lighted and guarded round the clock. Firefighting equipment shall be provided in accordance with the applicable Codes and requirements of local authorities.

(2) The explosive magazines comply with the relevant regulations of India and shall be at the locations approved by the competent authorities. Detonators and fuse shall be stored in separate magazines away from explosives. In no case they shall be transported in the same vehicles with explosives. Explosive magazines shall be kept locked and keys accounted for at all times.

(3) The Contractor shall be responsible for any losses occurring within the Site premises.

The Contractor shall install, furnish all these facilities within 120 days after the Appointed Date and maintained in good conditions until the issue of Taking-Over



Certificate.

Inspection by the Authority or Authority Engineer

The Authority and the Authority Engineer have the right at any time to inspect any part of the Contractor's Temporary Facilities and to require immediate rectification to comply with the specified requirements.

Final Clean-Up

(1) Upon the Completion of Works, or when any of the plants and facilities have completed its functions, the Contractor shall dismantle and demobilize the temporary facilities and remove all refuse, debris, objectionable material, and fill, grade and dress all the areas to its original condition as it was before commencement of the Work.

(2) No demobilization or removal of temporary facilities and equipment shall be made without prior consent of the Authority Engineer.

2.6. Contractor's Labour Camp

2.6.1. General

1. The Contractor shall comply with all requirements as specified in the local bye laws formulated by the state government.
2. The Authority will not provide living accommodation for the use of the Contractor or any of his staff or labour employed on the Works.

2.10.2 Office Cleaning, Waste and Garbage Disposal

(a) The Contractor shall provide personnel and perform daily cleaning of all rooms in the site offices.

(b) The Contractor shall collect and dispose of, in a location and manner consented by the Authority Engineer, all domestic waste and garbage from the site offices on daily basis. Collection times shall be arranged for the convenience of the Authority and Authority Engineer.

2.10.4. Fire Fighting Equipment

Firefighting equipment shall be provided in all the site offices and site office in accordance with the recommendations of the Local Fire Brigade Station.

2.10.5. Office Security

The service of a full time round the clock office security shall be provided for all the site offices and site huts of the Authority Engineer.

2.10.6. Use of Contractor's First Aid Stations



The Contractor's emergency medical care and first aid services shall be made available, for use by the Authority's and Authority Engineer's site staff and their families living at the Site or the Work Areas, free of charge,

2.11 TEMPORARY WORKS

2.11.1. Scope of Work

1. All necessary Temporary Works adequate for the realization of the Works such as Temporary Facilities and Temporary Utility Services shall be provided and maintained by the Contractor for his own use, for his sub-contractors, the Authority Engineer and the Authority unless otherwise authorized by the Authority Engineer.
2. The Temporary Facilities including, but not limited to, offices, warehouses and material stock areas as well as the Temporary Utility Services including, but not limited to, power, lighting, water and communication shall be provided, equipped, and maintained in good conditions until the issue of Taking-Over Certificate.
3. The Contractor shall ensure that the Temporary Facilities and Services do not interfere with the Permanent Works or prevent the installation, commissioning and testing of the Permanent Works and works and services of Other Contractors. Where necessary the Contractor shall divert or relocate the temporary facilities / services in the course of the works at his own cost.

2.11.2 Submittals

A). Land for temporary facilities for Contractor's Use:

Wherever available, the Contractor shall be allowed to use Railway land for carrying out his Temporary Works including stock piling of materials but excluding the Borrow Pits and the Quarries subject to the consent by the Authority Engineer. Any land required in excess of that shall have to be arranged by the Contractor using his own resources and at his own cost under due intimation to the Authority Engineer.

B). Borrow Areas and Quarry

(1) It shall be the responsibility of the Contractor to arrange for the borrow areas (for fill material) and quarry sites (for ballast, aggregates and rock material) using his own resources and at his own cost. The Contractor shall have to carry out his own investigations and verify about their approach, availability, sufficiency, quality and quantity of the material from the sources. The Contractor may also arrange additional borrow areas and quarry sites as required by him and at his own discretion. No claim whatsoever shall be entertained by the Authority in this regard.

(2) All the charges whatsoever towards royalties, taxes & duties, cess, cost of temporary land etc. as applicable for arranging the borrow areas and quarry sites including for the material extracted there from shall have to be borne by the Contractor.

(3) Before commencing operations in each of the borrow areas and quarry site,



the Contractor shall submit a detailed plan of his operations and demobilization/grading & finishing etc. in respect of the same to the Authority Engineer for his consent along with relevant drawings. The details shall be submitted as part of Temporary Work Design Report and Temporary Works Drawings.

(4) The quality of fill material, ballast and aggregates etc. extracted from borrow areas and quarry sites shall meet the requirements of Specifications and subject to consent of the Authority Engineer

(5) Generally, No Borrow areas, quarry sites and installation of rock crushers shall be permitted within the ROW of the Project. The good soil/boulder for aggregate excavated for earthwork in cutting shall be used for embankment free of cost with the approval of Authority Engineer. However, all levies, royalty charges and any other state or local bodies charges along with the transportation charges shall be borne by contractor. In case other Railways land is found to be suitable for extracting good soil / boulder for aggregate etc the same shall be permitted with the approval of Authority after due permission from State Authority. The Financial terms for use of good soil/ boulder for aggregate material from other railways land shall be decided with mutual consent according to para 13.2.3.(A) and (B) of article 13 Change of scope of Agreement

(6) On completion of the work, the Contractor shall leave the borrow area site in a safe and stable condition

(7) The Contractor shall indemnify the Authority against all claims in relation to the borrow areas and quarry sites during and after the Works are completed.

C). Concrete Batching & Mixing Plant and Crushing Plants

(1) The Contractor shall plan, install and erect all necessary concrete batching & mixing plant and crushing plants of sufficient capacity to meet the planned peak requirements during construction. The capacity of the plants shall be subject to consent by the Authority Engineer. All control and measuring equipment shall be regularly calibrated. The Concreting on Bridge Components shall not be from other than the batching and Mixing Plant. The Contractor shall submit the Authority Engineer the results of the calibration regularly.

D). Material Testing Laboratories

(1) The Contractor shall build and equip adequate Material Testing Laboratories on the Site and / or at the Work Areas for sampling and testing of materials for concrete, earth or any other materials as specified in the Specifications. The location of the Material Testing Laboratories shall be consented by the Authority Engineer.

(2) The laboratory shall be located in a building properly equipped with electricity, water, air-conditioning etc., and shall have enough room for storing the samples.

(3) The equipment to be supplied and the methods of testing shall be in accordance with the relevant Indian Standards specified in the Specifications and / or as described in the respective Manual. All apparatus and equipment shall be brand



new and of the latest design and manufactured by a reputable manufacturer. The proposed type and number of items of laboratory equipment shall be presented to the Authority Engineer prior to purchase.

(4) The equipment and apparatus shall be calibrated before the testing starts and at regular intervals as specified by the manufacturer and as directed by the Authority Engineer. The Contractor shall submit the results of the calibration to the Authority Engineer regularly.

(5) The constructor shall complete the construction and installation of the facility for operation within 15 days after the Appointed Date and operate and maintain the facility until the issue of Taking-Over Certificate unless otherwise authorized by the Authority Engineer. The Contractor shall also make all facilities and services available to the Authority Engineer as required. All sampling and testing to be undertaken shall be under the direct supervision of the Authority Engineer. The Material Testing Laboratory shall be run by Contractor's personnel fully experienced in sampling and testing of materials, and quality control.

(6) Specialized testing which may be required and which cannot be performed in the Contractor's laboratory due to lack of time or equipment shall be assigned to an independent organization having NABL Accreditation and duly consented by the Authority Engineer. The Contractor shall accept all results, instructions or restrictions stipulated by the Authority Engineer based on such tests.



SCHEDULE - D

(See Clause 2.1)

SPECIFICATIONS AND STANDARDS

GENERAL

1. Construction

The Contractor shall comply with the Specifications and Standards set forth in Annex-I of this Schedule-D for construction of the Proposed Project. The time limit for the review and clearances by the Authority for design and drawings submitted by the Contractor shall be as indicated in Annexure-II.

1.1. Contractor's Responsibilities related to Design

1.1.1. The Contractor shall take full responsibility for Design which shall ensure adequacy, stability, safety, and security in respect of all the:

- a) Works including the Permanent Works and Temporary Works
- b) Site Operations
- c) Methods of construction, manufacture, transportation, installation including testing and commissioning
- d) Plants and
- e) Contractor's Equipment irrespective of any approval given by the Authority Engineer

1.1.2. The Contractor shall, whenever required by the Authority Engineer, submit to the Authority Engineer details of the arrangements and methods which the Contractor proposes to adopt for execution of the Works along with necessary drawings and designs for his consent. No alteration to these designs and drawings shall be made without the consent of the Authority Engineer.

1.1.3. Standards for Construction Works: Prior to start of the construction operations, the Contractor shall submit all relevant technical details including but not limited to the following for review and evaluating the proposed construction methods and quality control procedures.

- a. Geological Investigation Report and evaluation of sub-surface conditions for Permanent Works along the alignment
- b. Material test report for embankment fill, prepared subgrade, blanket material, structural steel, bearings for steel bridge spans, cement, reinforcing steel, water, sand, aggregate etc. for concrete works
- c. Slopes stability calculations
- d. Analysis of stability and settlement of embankments
- e. All concrete work shall be confirming to IRS Bridge code, relevant IS Codes specifications and guidelines and shall be tested as per prescribed procedure and frequency of tests.
- f. Any other technical detailing as ordered by Authority Engineer required for execution of work.



- 1.1.3.1. Contractor shall be responsible for reviewing and validating the information provided, taking all necessary measures and precautions of satisfactory completions of the Works meeting the performance requirements in the stipulated time including but not limited to carrying out all the investigations as required, changes in the design, ground treatment or improvement, modification of construction methods etc . required due to site conditions. He shall also be responsible for all the temporary works, dewatering and drainage arrangements.
- 1.1.3.2. The Contractor shall procure the materials suitable for sub-grade and embankment fill after carrying out the necessary tests required as per Specifications, and confirming their suitability.
- 1.1.3.3. Scheme to improve the sub-soil/ground condition of "weak ground" and locations of "BCS", location wise and design for the same shall be submitted by the contractor. The necessary parameters adopted for design shall be well corroborated with codes and RDSO guidelines and also practices adopted successfully for similar conditions and loadings.
- 1.1.3.4. In respect of structural steel material brought by the Contractor to the storage / fabrication yard for incorporation into the Permanent Works, the Contractor shall store such steel material in the proper storage yard and carry out fabrication and shop assembly of such steel material in the proper fabrication yard. Such storage / fabrication yard shall be kept clean and properly drained, as to prevent loss, damage and deterioration, and to ensure the preservation of its quality and fitness for the Works.

1.1.4. Checking of the Contractor's Temporary Works Design

- 1.1.4.1. The Contractor shall, prior to commencing the construction of the Temporary Works, fully check the design and go through the Internal Authorization Process and submit design to the Authority Engineer for consent as part of the Technical Design. Through those process and procedures, the Contractor shall ensure that his Temporary Works have been properly and safely designed and checked the effect of the Temporary Works on the Permanent Works.
- 1.1.4.2. In addition to the above, the Contractor shall also submit a Design Certificate to the Authority Engineer, duly signed by Design Director of the Contractor's Design Team and Contractor's Representative as part of Contractor's Internal Authorisation process, certifying that the Temporary Works have been properly and safely designed and checked including the effect of the Temporary Works on the Permanent Works and has found this to be satisfactory.

2. DESIGN STANDARDS

The Railway Project including Project Facilities shall conform to design requirements set out in the following documents:

Sl.No.	Description
1.	Indian Railway Code for the Engineering Department
2.	Indian Railway Permanent Way Manual
3.	Indian Railway Works Manual
5.	General & Subsidiary Rules, Pt.- I & II
6.	DFCCIL Schedule of Dimensions
7.	IRS Code of practice for The design of substructures and foundation of bridges
8.	IRS Specification (IRS B-1 and BS-110), BS -111 (HSFG)
9.	IS:1786-1985, Specification for high strength deformed steel bars and wires for concrete reinforcement
10.	IS:875
11.	IS:456-2000, Plain and reinforced concrete code of practice
12.	IS:383-1970, Specification for coarse & fine aggregates for concrete
13.	IS:269-1989, Ordinary Portland Cement 33 grade specification
14.	IS:8112-1989, 43 Grade Ordinary Portland Cement
15.	IS:12269-1987, Specification for 53 Grade Ordinary Portland Cement
16.	IS:516-1959, Method of testing for strength of cement
17.	IS:1383-1980, Code of practice for prestressed concrete
18.	IS:1948-1970, Classification & Identification of soils for general engineering purposes
19.	IS:2062
20.	Comprehensive guidelines and Specifications for Railway Formation specification No. RDSO/2020/GE: IRS-0004, Sept.-2020
21.	IRS: Code of practice for plain, reinforced & prestressed concrete for General Bridge Construction
22.	IS:800-1984, Code of practice for General construction in Steel
23.	Codes, Indian Railways Standard for Bridges, structures and other subjects
24.	Signal Engineering Manual
25.	Signal Engineering Manual Appendix I &II
26.	ACTM Volume – I & II
27.	Indian Railway Electricity Rules
28.	Indian Railway Standard Code of Practice for The Design of Steel or Wrought
29.	National Building Code

- All Other Standards & Specification approved by BIS/CPWD/RDSO/IR Required for completion of Crew Running Room Building should be followed.



2.1. Design Organization and methodology of design submission.

- 2.1.1.** The Contractor shall establish an office for his dedicated design team in the Main Site Office of the Contractor and referred to as Design Team. The Design Team shall function from this office and all meetings and discussions relating to design shall be held in this office or in the office of Authority Engineer / Authority and / or as instructed by the Authority Engineer. In addition to the requirements herein, the Contractor shall, whenever the Authority Engineer so requests, provide information and participate in discussions that relate to design matters.
- 2.1.2.** The Contractor shall ensure that the Design Team continues to be represented at Site at all times by staff whose seniority and experience are to the satisfaction of the Authority Engineer and whose representative shall be available on the Site as necessary or as required by the Authority Engineer.
- 2.1.3.** There are three Design Submissions covering the Design Phase and Construction Phase:
- i. Technical Design
 - ii. Construction Design
 - iii. As-Built Documents

The requirements for each design stage shall generally confirm to the procedure detailed in Article 10 of the EPC Agreement.

- 2.1.4.** The Contractor shall submit plans, programmes, reports, manuals and drawing as specified in Article 10 of the EPC Agreement for the design stages in accordance with the provisions herein and as further detailed in Article 10 of the EPC Agreement to the Authority Engineer for consent. It shall also include the additional information as required by the Authority Engineer.
- 2.1.5.** The Authority Engineer shall review the submissions to be satisfied that the submittal covers the obligations and intended purpose of the design of the Works and fully complies with the Contract.

2.2. Contractor's Organization during Design Phase

2.2.1. Project Organization Plan

- 2.2.1.1.** The Contractor's Personnel shall be deployed and maintained as necessary or as required by the Authority Engineer.
- 2.2.1.2.** As detailed in article 10, the Contractor shall submit the Project Organization Plan which includes complete project organization chart during the Design Phase, equipped with the functions in a manner as described in Article 11 [Quality Assurance]. The Contractor shall deploy fully qualified personnel in the Design Team with the Authority Engineer's consent for each key personnel during the Design Phase. This plan shall be updated and resubmitted whenever there are changes to the personnel. The Plan shall show the management structure and state clearly the duties, responsibilities and authority of each key and staff member.
- 2.2.1.3.** The Contractor shall establish the Design Team in his organization independent of the Construction Team, which shall be also maintained in the



construction phase to ensure that the Contractor's design development strictly complies with the Technical Design which has received consent from Authority Engineer and also the Authority's Requirements and Specifications without being harmed by the adverse position of the Contractor against the Authority as detailed in Article 11 [Quality Assurance].

2.3. Requirements During Design Phase

2.3.1. Technical Design

2.3.1.1. During the preparation of the Technical Design, the Contractor shall in particular:

- a) complete all calculations and analysis;
- b) delineate all main and all other significant elements;
- c) complete all tests and trials and all selection of materials and equipment;
- d) assess and take full account of the effect on the Works of the proposed methods of construction, installation, testing and commissioning and temporary works.
- e) complete the validation of all the data provided by the Authority including all the additional surveys, investigations and testing as considered necessary by the Contractor to develop the Technical Design of the Works in accordance with the Contract.
- f) draw up a set of the Technical Drawings which shall cover all engineering activities to be taken as part of the project.

2.3.1.2. Engineering studies and comparative evaluations shall be performed to ensure that the designs incorporate features to achieve optimum performance of all elements.

2.3.1.3. Contractor shall submit a design basis report within 15 days of award of contract covering all the major components of the project such as Structural Drawing, Electrical Layout, Sewerage Network Drawing etc as per listed drawing which shall include the design of the same. In respect of the Technical Design Report, the Contractor shall complete the design in all respects and produce Technical Drawings.

2.3.1.4. The Temporary Works as defined in Schedule 'C' [Temporary Works] shall also be identified as a separate Works Segment and the design of those shall be proposed by the Contractor early enough to have sufficient discussions on engineering and procedural issues with the Authority Engineer so as to meet the intent of the Authority's Requirements. The Contractor shall submit the agreed design of the Temporary Works as part of the Technical Design to the Authority Engineer for consent.

2.3.1.5. The Contractor shall provide to the Authority Engineer five original full and latest editions of the publications / Technical Standards including the Codes and Standards and other documents that the Contractor propose to use for carrying out the Technical Designs, including other communications between Authority Engineer and the Contractor relevant to this Contract as part of the

Inception Report. These publications / documents shall be for the sole use of the Authority Engineer and, upon completion of the Contract, shall become the property of the Authority.

2.4. Requirements During Construction Phase

The principal requirements during the Construction Phase are the production, submission and consent of the Construction Design and the As-Built Documents.

2.4.1. Construction Design

2.4.1.1. Upon the approval of a Technical Design Package, the Contractor shall produce the respective Construction Design Package which shall include, but not limited to,

- a. the Technical Drawings,
- b. the updated Specifications (if any) including Method Statements/ work procedures/ construction sequences,
- c. the Working Drawings
- d. the Construction Practicing Documents including site sketches, bar bending schedules, bar reference drawings, fabrication and shop drawings, erection sequences etc. and
- e. Works Management Plans.

2.4.1.2. The Construction Design and Construction Technical Drawings including updated Specifications (if any) / Method Statements etc. shall be derived directly from the Technical Design as consented by the Authority Engineer including changes that may be necessary to resolve the comments of the Authority Engineer attached to the approval.

2.4.1.3. The Working Drawings and the Construction Practicing Documents shall be prepared to facilitate construction to meet the required workmanship as well as technical requirements. The Works Management Plans shall be prepared to check and monitor the Works and Quality Assurance requirement described in Article 11 of the EPC Agreement. Method statement for all the activities shall be submitted for the approval of Authority Engineer.

2.4.1.4. All those drawings and documents are revised, upgraded, detailed and integrated in the Construction Design Package. The Contractor shall fully verify the Construction Design drawings and shall submit for the approval of Authority Engineer.

2.4.1.5. A detailed system of authorization and documentation of all drawings and documents shall be worked out by contractor and approved by Authority. The approved system of documentation shall be followed strictly while processing and keeping the records of the drawing and documents.

2.4.1.6. The Contractor shall submit the Construction Design and Drawings for a particular work to the Authority Engineer at least 1 month but not more than 3 months prior to the planned / schedule date of commencement of that particular work.

2.5. As-Built Documents

2.5.1. The Contractor shall maintain all records necessary for the preparation of the As-Built Documents. The Contractor shall prepare and submit the As-Built Drawing and the Records which, subject to the Authority Engineer's agreement, shall become the contents of the As-built Documents. The Records are defined and detailed in Article 11 of the EPC Agreement.

2.5.2. The As-Built Drawings shall be a full set of the latest revisions of the Construction Technical Drawings, which are updated to incorporate all Design Changes and Field Changes and as many Working Drawings as necessary to convey a full and true record of the as-built condition of the Works. The As-Built Drawings shall show all changes from the Construction Design, all construction deviations and all other features relevant to the future maintenance and management of the Railway and its facilities. The As-Built Drawings shall be endorsed by the Contractor as true records of the construction of the Works.

2.5.3. The As-Built Records shall include survey results including geotechnical, all inspection records, and other documents of the EPC Agreement and shall be verified and endorsed by the Contractor through the Internal Authorization Process, as approved by Authority.

2.5.4. The As-built drawings and records shall also be digitized as a “master document” which shall be “tamper proof” and these copies of the” master document” shall be submitted to Authority Engineer for record of authority and other maintenance organization.

2.6. Design Criteria

2.6.1. General

2.6.1.1. The design of the Works shall comply with the relevant Indian Railway standards, Codes, Specifications, manuals, rules and guidelines as published

by Indian Railways /RDSO, CPWD, Indian Standards, Indian Road Congress (IRC) codes and specifications and other International codes as specified and as applicable, and with the consent of the Authority Engineer.

2.6.1.2. The Design Criteria shall be read in conjunction with the Specifications and other documents forming part of the Contract.

2.6.2. Specification of Running Room

The Area of the Construction of Running Room is as per the Attached Drawing. The Running Room is to be constructed with provision for G+3 Storied Building. The work for the Construction of Running Room at DDUN Station Of EDFC will be executed as per IRUSSOR and Approval of Engineer in charge as per the tentative Items listed Below:-

General Civil Work

Sr. No.	DSR ITEM NO.	Description
1	2.28	Surface dressing of the ground including removing vegetation and in-equalities not exceeding 15 cm deep and disposal of rubbish, lead up to 50 m and lift up to 1.5 m.
2	2.8.1	Earth work in excavation by mechanical means (Hydraulic excavator) / manual means in foundation trenches or drains (not exceeding 1.5 m in width or 10 sqm on plan), including dressing of sides and ramming of bottoms, lift upto 1.5 m, including getting out the excavated soil and disposal of surplus excavated soil as directed, within a lead of 50 m. All kinds of soil.
3	2.25	Filling available excavated earth (excluding rock) in trenches, plinth, sides of foundations etc. in layers not exceeding 20cm in depth, consolidating each deposited layer by ramming and watering, lead up to 50 m and lift upto 1.5 m.
4	2.25(a)	Excavating, supplying and filling of local earth (including royalty) by mechanical transport upto a lead of 5km also including ramming and watering of the earth in layers not exceeding 20 cm in trenches, plinth, sides of foundation etc. complete.
5	2.36	Extra for levelling & neatly dressing of disposed soil completely as directed by Engineer-in-charge.
6	2.10.1.2	Excavating trenches of required width for pipes, cables, etc including excavation for sockets, and dressing of sides, ramming of bottoms, depth upto 1.5 m, including getting out the excavated soil, and then returning the soil as required, in layers not exceeding 20 cm in depth, including consolidating each deposited layer by ramming, watering, etc. and disposing of surplus excavated soil as directed, within a lead of 50 m: All kinds of soil Pipes, cables etc. exceeding 80 mm dia. but not exceeding 300 mm dia
7	2.27	Supplying and filling in plinth with sand under floors, including watering, ramming, consolidating and dressing complete.
8	2.35.2.1	Diluting and injecting chemical emulsion for POST-CONSTRUCTIONAL anti-termite treatment Along the external wall below concrete or masonry apron using chemical emulsion @ 2.25 litres per linear metre including drilling and plugging holes etc.: (excluding the cost of chemical emulsion): With Chlorpyriphos/ Lindane E.C. 20% with 1% concentration
9	2.34.1	Supplying chemical emulsion in sealed containers including delivery as specified. Chlorpyriphos/ Lindane emulsifiable concentrate of 20%
10	4.1.3	Providing and laying in position cement concrete of specified grade excluding the cost of centering and shuttering - All work up to plinth level : 1:2:4 (1 cement : 2 coarse sand (zone-III) derived from natural sources : 4 graded stone aggregate 20 mm nominal size derived from natural sources)



11	5.33.1.2	Providing and laying in position ready mixed or site batched design mix cement concrete for reinforced cement concrete work; using coarse aggregate and fine aggregate derived from natural sources, Portland Pozzolana / Ordinary Portland /Portland Slag cement, admixtures in recommended proportions as per IS: 9103 to accelerate / retard setting of concrete, to improve durability and workability without impairing strength; including pumping of concrete to site of laying, curing, carriage for all leads; but excluding the cost of centering, shuttering, finishing and reinforcement as per direction of the engineer-in-charge; for the following grades of concrete. Note: Extra cement up to 10% of the minimum specified cement content in design mix shall be payable separately. In case the cement content in design mix is more than 110% of the specified minimum cement content, the contractor shall have discretion to either re-design the mix or bear the cost of extra cement. All works upto plinth level Concrete of M30 grade with minimum cement content of 350 kg /cum
12	5.33.2.2	Providing and laying in position ready mixed or site batched design mix cement concrete for reinforced cement concrete work; using coarse aggregate and fine aggregate derived from natural sources, Portland Pozzolana /Ordinary Portland /Portland Slag cement, admixtures in recommended proportions as per IS: 9103 to accelerate / retard setting of concrete, to improve durability and workability without impairing strength; including pumping of concrete to site of laying, curing, carriage for all leads; but excluding the cost of centering, shuttering, finishing and reinforcement as per direction of the engineer-in-charge; for the following grades of concrete. Note: Extra cement up to 10% of the minimum specified cement content in design mix shall be payable separately. In case the cement content in design mix is more than 110% of the specified minimum cement content, the contractor shall have discretion to either re-design the mix or bear the cost of extra cement. All works above plinth level upto floor V level Concrete of M30 grade with minimum cement content of 350 kg /cum
13	5.35	Add for using extra cement in the items of design mix over and above the specified cement content therein
14	5.9.1	Centering and shuttering including strutting, propping etc. and removal of form for Foundations, footings, bases of columns, etc. for mass concrete
15	5.9.2	Centering and shuttering including strutting, propping etc. and removal of form for Walls (any thickness) including attached pilasters, buttersesses, plinth and string courses etc.
16	5.9.20	Centering and shuttering including strutting, propping etc. and removal of form for Suspended floors, roofs, landings, balconies and access platform with water proof ply 12 mm thick
17	5.9.5	Centering and shuttering including strutting, propping etc. and removal of form for Lintels, beams, plinth beams, girders, bressumers and cantilevers
18	5.9.6	Centering and shuttering including strutting, propping etc. and removal of form for Columns, Pillars, Piers, Abutments, Posts and Struts
19	5.9.7	Centering and shuttering including strutting, propping etc. and removal of form for Stairs, (excluding landings) except spiral-staircases
20	5.9.16.1	Centering and shuttering including strutting, propping etc. and removal of form for Cornices and mouldings
21	5.9.19	Centering and shuttering including strutting, propping etc. and removal of form for Weather shade, Chajjas, corbels etc., including edges
22	4.12	Extra for providing and mixing water proofing material in cement concrete work in doses by weight of cement as per manufacturer's specification.
23	5.22B.1	Steel reinforcement for R.C.C. work ready to use "cut and bend" rebars of approved make from factory/workshop to construction site including placing in position and binding all complete upto plinth level.. Thermo-Mechanically Treated bars of grade Fe-500D or more.
24	5.22C.1	Steel reinforcement for R.C.C. work ready to use "cut and bend" rebars of approved make from factory/workshop to construction site including placing in position and binding all complete above plinth level. Thermo-Mechanically Treated bars of grade Fe-500D or more.



25	5.23	Smooth finishing of the exposed surface of R.C.C. work with 6 mm thick cement mortar 1:3 (1 Cement : 3 fine sand).
26	5.41.1	Supplying and applying pre tested and approved water based concrete curing compound to concrete/ masonry surface, all as per manufacturer's specification and direction of Engineer-in-charge. Non pigmented wet curing compound
27	5.44.1	Providing and fixing of expansion joint system related with floor location as per drawings and direction of Engineer-In-Charge. The joints system will be of extruded aluminum base members, self aligning / self centering arrangement and support plates etc. as per ASTM B221-02. The system shall be such that it provides floor to floor /floor to wall expansion control system for various vertical localtion in load application areas that accommodates multi directional seismic movement without stress to it's components. System shall consist of metal profiles with a universal aluminum base member designed to accommodate various project conditions and finish floor treatments. The cover plate shall be designed of width and thickness required to satisfy projects movement and loading requirements and secured to base members by utilizing manufacturer's pre-engineered self-centering arrangement that freely rotates / moves in all directions. The Self - centering arrangement shall exhibit circular sphere ends that lock and slide inside the corresponding aluminum extrusion cavity to allow freedom of movement and flexure in all directions
		including vertical displacement. Provision of Moisture Barrier Membrane in the Joint System to have watertight joint is mandatory requirement all as per the manufactures design and as approved by Engineer -in-Charge. (Material shall confirm to ASTM 6063). Floor Joint of 100 mm gap
28	5.45.1	Providing and fixing of expansion joint system related with wall joint (internal/external) location as per drawings and direction of Engineer-In- Charge. The joints shall be of extruded aluminum base members, self aligning / centering arrangement and support plates as per ASTM B221- 02. The material shall be such that it provides an Expansion Joints System suitable for vertical wall to wall/ wall to corner application, both new and existing construction in office Buildings & complexes with no slipping down tendency amongst the components of the Joint System. The Joint System shall utilize light weight aluminum profiles exhibiting minimal exposed aluminum surfaces mechanically snap locking the multicellular to facilitate movement. (Material shall confirm to ASTM 6063). Wall Joint of 100 mm gap
29	5.46.1	Providing and fixing of expansion joint system of approved make and manufactures for various roof locations as per approved drawings and direction of Engineer-In-Charge. The joints shall be of extruded aluminum base members with, self aligning and self centering arragement support plates asper ASTMB221-02. The system shall be such that it provides watertight roof to roof/roof to corner joint cover expansion control system that is capable of accommodating multidirectional seismic movement without stress to its components. System shall consist of metal profile that incorporates a universal aluminum base member designed to accommodate various project conditions and roof treatments. The cover plate shall be designed of width and thickness required to satisfy movement and loading requirements and secured to base members by utilizing manufacturer's pre-engineered self-centering arrangement that freely rotates / moves in all directions. The Self centering arrangement shall exhibit circular sphere ends that lock and slide inside the corresponding aluminum extrusion cavity to allow freedom of movement and flexure in all directions including vertical displacement.
		The Joint System shall resists damage or deterioration from the impact of falling ice, exposure to UV, airborne contaminants and occasional foot traffic from maintenance personnel. Provision of Moisture Barrier Membrane in the Joint System to have water tight joint is mandatory requirement. (Material shall confirm to ASTM 6063). Wall Joint of 100 mm gap
30	6.1.2	Brick work with common burnt clay F.P.S. (non modular) bricks of class designation 7.5 in foundation and plinth in: Cement mortar 1:6 (1 cement : 6 coarse sand)



31	6.47	Providing and laying autoclaved aerated cement blocks masonry with 150mm/230mm/ 300 mm thick AAC blocks in super structure above plinth level up to floor V level with RCC band at sill level and lintel level with approved block laying polymer modified adhesive mortar all complete as per direction of Engineer-in-Charge. (The payment of RCC band and reinforcement shall be made for separately).
32	6.38	Providing and laying autoclaved aerated cement blocks masonry with 100 mm thick AAC blocks in super structure above plinth level up to floor V level in cement mortar 1:4 (1 cement : 4 coarse sand). The rate includes providing and placing in position 2 Nos 6 mm dia M.S. bars at every third course of masonry work.
33	13.1.2	12 mm cement plaster of mix : 1:6 (1 cement: 6 fine sand)
34	13.80	Providing and applying white cement based putty of average thickness 1 mm, of approved brand and manufacturer, over the plastered wall surface to prepare the surface even and smooth complete.
35	13.47.1	Finishing walls with Premium Acrylic Smooth exterior paint with Silicone additives of required shade: New work (Two or more coats applied @ 1.43 ltr/10 sqm over and including priming coat of exterior primer applied @ 2.20 kg/10 sqm)
36	13.48.1	Finishing with Deluxe Multi surface paint system for interiors and exteriors using Primer as per manufacturers specifications : Two or more coats applied on walls @ 1.25 ltr/10 sqm over and including one coat of Special primer applied @ 0.75 ltr /10 sqm
37	4.17	Making plinth protection 50mm thick of cement concrete 1:3:6 (1 cement : 3 coarse sand (zone-III) derived from natural sources : 6 graded stone aggregate 20 mm nominal size derived from natural sources) over 75mm thick bed of dry brick ballast 40 mm nominal size, well rammed and consolidated and grouted with fine sand, including necessary excavation, levelling & dressing & finishing the top smooth.
38	10.18	Providing and fixing circular/ Hexagonal cast iron or M.S. sheet box for ceiling fan clamp, of internal dia 140 mm, 73 mm height, top lid of 1.5 mm thick M.S. sheet with its top surface hacked for proper bonding, top lid shall be screwed into the cast iron/ M.S. sheet box by means of 3.3 mm dia round headed screws, one lock at the corners. Clamp shall be made of 12 mm dia M.S. bar bent to shape as per standard drawing.
39	8.31	Providing and fixing Ist quality ceramic glazed wall tiles conforming to IS: 15622 (thickness to be specified by the manufacturer), of approved make, in all colours, shades except burgundy, bottle green, black of any size as approved by Engineer-in-Charge, in skirting, risers of steps and dados, over 12 mm thick bed of cement mortar 1:3 (1 cement : 3 coarse sand) and jointing with grey cement slurry @ 3.3kg per sqm, including pointing in white cement mixed with pigment of matching shade complete.
40	11.56.1	Providing and laying Polished Granite stone flooring in required design and patterns, in linear as well as curvilinear portions of the building all complete as per the architectural drawings with 18 mm thick stone slab over 20 mm (average) thick base of cement mortar 1:4 (1 cement : 4 coarse sand) laid and jointed with cement slurry and pointing with white cement slurry admixed with pigment of matching shade including rubbing , curing and polishing etc. all complete as specified and as directed by the Engineer-in-Charge. Polished Granite stone slab colour of Black, Cherry/Ruby Red or equivalent
41	11.41.3	Providing and laying vitrified floor tiles in different sizes (thickness to be specified by the manufacturer) with water absorption less than 0.08% and conforming to IS: 15622, of approved make, in all colours and shades, laid on 20mm thick cement mortar 1:4 (1 cement : 4 coarse sand), jointing with grey cement slurry @ 3.3 kg/ sqm including grouting the joints with white cement and matching pigments etc., complete. Size of Tile 800x800 mm
42	11.41A.3.1	Providing and laying Vitrified tiles in floor in different sizes (thickness to be specified by the manufacturer) with water absorption less than 0.08% and conforming to IS:15622, of approved brand & manufacturer, in all colours and



		shade, laid on 20 mm thick cement mortar 1:4 (1 cement: 4 coarse sand) jointing with grey cement slurry @3.3 kg/sqm including grouting the joints with white cement and matching pigments etc. The tiles must be cut with the zero chipping diamond cutter only . Laying of tiles will be done with the notch trowel, plier, wedge, clips of required thickness, leveling system and rubber mallet for placing the tiles gently and easily. Glazed Vitrified tiles Matt/Antiskid finish of size 600x600mm
43	8.11.1	Providing and fixing machine cut, mirror/ eggshell polished , Marble stone work for wall lining (veneer work) including dado, skirting, risers of steps etc., in required design and pattern wherever required, stones of different finished surface texture, on 12 mm (average) thick cement mortar 1:3 (1 cement : 3 coarse sand) laid and jointed with white cement slurry @ 3.3 kg/sqm including pointing with white cement slurry admixed with pigment of matching shade, including rubbing, curing, polishing etc. all complete as per Architectural drawings, and as directed by the Engineer-in-Charge. 18 mm thick Italian Marble stone slab,Perlato, Rosso verona, Fire Red or Dark Emperadore etc
44	11.27	Kota stone slabs 20 mm thick in risers of steps, skirting, dado and pillars laid on 12 mm (average) thick cement mortar 1:3 (1 cement: 3 coarse sand) and jointed with grey cement slurry mixed with pigment to match the shade of the slabs, including rubbing and polishing complete.
45	10.28	Providing and fixing stainless steel (Grade 304) railing made of Hollow tubes, channels, plates etc., including welding, grinding, uffing, polishing and making curvature wherever required) and fitting the same with necessary stainless steel nuts and bolts complete, i/c fixing the railing with necessary accessories & stainless steel dash fasteners , stainless steel bolts etc., of required size, on the top of the floor or the side of waist slab with suitable arrangement as per approval of Engineer-in-charge, (for payment purpose only weight of stainless steel members shall be considered excluding fixing accessories such as nuts, bolts, fasteners etc
46	10.14.2.1	Providing and fixing pressed steel door frames conforming to IS: 4351,manufactured from commercial mild steel sheet of 1.60 mm thickness, includinghinges, jamb, lock jamb, bead and if required angle threshold of mild steel angle of section 50x25 mm, or base ties of 1.60 mm, pressed mild steel welded orrigidly fixed together by mechanical means, including M.S. pressed butt hinges 2.5 mm thick with mortar guards, lock strike-plate and shock absorbers as specified and applying a coat of approved steel primer after pre-treatment of the surface as directed by Engineer-in-charge: Profile Cfixing with adjustable lugs with split end tail to each jamb
47	9.147A	Providing and fixing factory made uPVC glazed/wire mesh windows/doors comprising of lead free uPVC multi-chambered frame, sash and mullion/coupler (where ever required) extruded profiles having minimum wall thickness of 1.70 mm for Series R1 and R2 profiles and 2.10 mm for Series R3 and R4 profiles conforming to EN: 12608 in any shape, colour and design duly reinforced with galvanized mild steel section made of required shape & size as per CPWD Specification, uPVC extruded glazing beads, interlocks and Inline sash adaptor (where ever required) of appropriate dimension, EPDM gasket, hardware, SS 304 grade fasteners of minimum 8 mm dia with countersunk head, comprising of matching polyamide PA6 grade sleeve for fixing frame to finished wall as per IS 1367 : Pal'11 to 14, plastic packers, plastic caps and necessary stainless steel screws etc. Profile of frame, sash & mullion (if required) shall be mitred cut and fusion welded/mechanically jointed duly sealed at all corners, including drilling of holes for fixing hardware and drainage of water etc. After fixing frame the gap between frame and adjacent finished wall shall be filled with weather proof silicon sealant over backer rod of approved size and quality, all complete as per approved drawing conforming to CPWO specification & direction of Engineer-in-Charge. Section of steel reinforcement and cross sections of uPVC profiles to be as per design approved by Engineer-in-Charge.'
		Wire mesh I Glazing of plain/ toughened/ laminated/ double glass unit with / without high performance coatings as per design requirements and conforming to IS: 3548 & IS: 16231 shall be paid separately.Note:-Structural design



		proofchecked from a Government Engineering Institute, to be provided by the manufacturer for : (i) Sites with basic wind speed > 45 m/sec as per IS 875 - Part 3 (ii) Sites with structure height more than 20m for all wind speeds Two track two panels sliding window with Aluminium channel for roller track, wool pile, nylon rollers with SS 304 body.
	9.147.F1.1	Casement door single panel with zinc alloy (zamak) 3D hinges, multi-point locking system with cylinder, zinc alloy (zamak) powder coated handles on both sides. Using R3 series with frame (55mm & above) x (50mm & above) & sash (55mm & above) x (85mm & above) (height upto 2.5 metre)
48	9.147A	Providing and fixing factory made uPVC glazed/wire mesh windows/doors comprising of lead free uPVC multi-chambered frame, sash and mullion/coupler (where ever required) extruded profiles having minimum wall thickness of 1.70 mm for Series R1 and R2 profiles and 2.10 mm for Series R3 and R4 profiles conforming to EN: 12608 in any shape, colour and design duly reinforced with galvanized mild steel section made of required shape & size as per CPWD Specification, uPVC extruded glazing beads, interlocks and inline sash adaptor (where ever required) of appropriate dimension, EPDM gasket, hardware, SS 304 grade fasteners of minimum 8 mm dia with countersunk head, comprising of matching polyamide PA6 grade sleeve for fixing frame to finished wall as per IS 1367 : Pal'11 to 14, plastic packers, plastic caps and necessary stainless steel screws etc. Profile of frame, sash & mullion (if required) shall be mitred cut and fusion welded/mechanically jointed duly sealed at all corners, including drilling of holes for fixing hardware and drainage of water etc. After fixing frame the gap between frame and adjacent finished wall shall be filled with weather proof silicon sealant over backer rod of approved size and quality, all complete as per approved drawing conforming to CPWO specification & direction of Engineer-in-Charge. Section of steel reinforcement and cross sections of uPVC profiles to be as per design approved by Engineer-in-Charge.'
		Wire mesh I Glazing of plain/ toughened/ laminated/ double glass unit with / without high performance coatings as per design requirements and conforming to IS: 3548 & IS: 16231 shall be paid separately. Note:-Structural design proofchecked from a Government Engineering Institute, to be provided by the manufacturer for : (i) Sites with basic wind speed > 45 m/sec as per IS 875 - Part 3 (ii) Sites with structure height more than 20m for all wind speeds Two track two panels sliding window with Aluminium channel for roller track, wool pile, nylon rollers with SS 304 body.
	9.147.A5.2	Three track three panels sliding window with Aluminium channel for roller track, wool pile, nylon rollers with SSW 304 body Using R3 series with frame (98mm & above) & sash (30mm & above) x (55mm & above) with zinc alloy (zamak) powder coated handle on two end panels along with multi-point locking system. (Height upto 1.8 metre).
49	9.155	Providing and fixing panelling or paneling and glazing in panelled or panelled and glazed shutters for doors, windows and clerestory windows (area of opening for panel inserts excluding portion inside grooves or rebated to be measured). Panelling for panelled and glazed shutters 25mm to 40mm thick: Pre-laminated with decorative lamination on both side exterior Grade -1 MDF Board 12 mm thick conforming to IS:14587
50	10.3	Providing and fixing in position collapsible steel shutters with vertical channels 20x10x2 mm and braced with flat iron diagonals 20x5 mm size, with top and bottom rail of T-iron 40x40x6 mm, with 40 mm dia steel pulleys, complete with bolts, nuts, locking arrangement, stoppers, handles, including applying a priming coat of approved steel primer.
51	10.6.1	Supplying and fixing rolling shutters of approved make, made of required size M.S. laths, interlocked together through their entire length and jointed together at the end by end locks, mounted on specially designed pipe shaft with brackets, side guides and arrangements for inside and outside locking with push and pull operation complete, including the cost of providing and fixing necessary 27.5 cm long wire springs manufactured from high tensile steel wire of adequate strength conforming to IS: 4454 - part 1 and M.S. top cover of required thickness for rolling shutters.



52	5.18.3	Providing precast cement concrete Jali 1:2:4 (1 cement : 2 coarse sand(zone-III) : 4 graded stone aggregate 6mm nominal size), reinforced with 1.6 mm dia mild steel wire, including centering and shuttering, roughening cleaning, fixing and finishing in cement mortar 1:3 (1 cement: 3 fine sand) etc. complete, excluding plastering of the jambs, sills and soffits.
53	5.14	Providing, hoisting and fixing above plinth level up to floor five level precast reinforced cement concrete in mouldings as in cornices, windows sills etc, including setting in cement mortar 1:3 (1 cement : 3 coarse sand) cost of required centering, shuttering but, excluding the cost of reinforcement, with 1:1.5:3 (1 cement : 1.5 coarse sand(zone-III) derived from natural sources : 3 graded stone aggregate 20 mm nominal size derived from natural sources).
54	22.22A	Providing and applying fibre reinforced elastomeric liquid water proofing membrane with resilient acrylic polymers having Sun Reflectivity Index (SRI) of 105 on top of concrete roof in three coats @10.76 litre/ 10 sqm. One coat of self-priming of elastomeric waterproofing liquid (dilution with water in the ratio of 3:1) and two coats of undiluted elastomeric waterproofing liquid (dry film thickness of complete application/system not less than 500 microns). The operation shall be carried out after scrapping and properly cleaning the surface to remove loose particles with wire brushes, complete in all respect as per the direction of Engineer-in-Charge.
55	25.2	Designing, fabricating, testing and, protection, installing and fixing in position semi (grid) unitized system of structural glazing (with open joints) for linear as well as curvilinear portions of the building for all heights and all levels, including: (a) structural analysis & design and preparation of shop drawings for the specified design loads conforming to IS 875 part III (the system must pass -do- (b) Fabricating and supplying serrated M.S hot dip galvanised /aluminium alloy of 6005 T5 bracket -do- (c) Providing and filling, two part pump filled, structural silicone sealant and one part weather silicon sealants compatible with the structural silicone sealants of required size -do- (d) Providing and fixing in position flashings of solid aluminium sheet 1 mm thick and of sizes, shapes and profiles, as required as per the site conditions, to seal the gap between the building structure and all its interfaces with curtain glazing to make it watertight. (e) Making provision for drainage of moisture/ water that enters the curtain glazing system to make it watertight, by incorporating principles of pressure equalization, providing suitable gutter profiles at bottom (if required), making necessary holes of required sizes -do- 1. Performance Laboratory Test for Air Leakage Test (-50pa to +300pa) & (+50pa to +300pa) as per ASTM1 E-283-04 testing method for a range of testing limit 1 to 200 mVhr
56	8.32	Designing, fabricating, testing, installing and fixing in position Curtain Wall with Aluminium Composite Panel Cladding, with open grooves for linear as well as curvilinear portions of the building, for all heights and all levels etc. including:
		(a) Structural analysis & design and preparation of shop drawings for pressure equalisation or rain screen principle as required, proper drainage of water to make it watertight including checking of all the structural and functional design.(b) Providing, fabricating and supplying and fixing panels of aluminium composite panel cladding in pan shape in metallic colour of approved shades made out of 4mm thick aluminium composite panel material consisting of 3mm thick FR grade mineral core sandwiched between two Aluminium sheets (each 0.5mm thick). The aluminium composite panel cladding sheet shall be coil coated, with Kynar 500 based PVOF / Lumiflon based fluoropolymer resin coating of approved colour and shade on face# 1 and polymer (Service) coating on face# 2 as specified using stainless steel screws, nuts, bolts, washers, cleats, weather silicone sealant, backer rods etc.(c) The fastening brackets of Aluminium alloy 6005 TS / MS with Hot Dip Galvanised with serrations and serrated washers to arrest the wind load movement, fasteners, SS 316 Pins and anchor bolts of approved make in SS 316, Nylon separators to prevent bi-metallic contacts all complete required to perform



		as per specification and drawing The item includes cost of all material & labour component, the cost of all mock ups at site, cost of all samples of the individual components for testing in an approved laboratory, field tests on the assembled working curtain wall with aluminium composite panel cladding, cleaning and protection of the curtain wall with aluminium composite anel cladding till the handing over of the building for occupation. Base frame work for CP claddln is payable under the relevant aluminium item.s The Contractor shall provide curtain wall with aluminium composite panel cladding, having all the performance characteristics all complete , as per the Architectural drawings, as per item description, as specified, as per the approved shop drawings and as directed by the Engineer-in-Charge. However, for the purpose of payment, only the actual area on the external face of the curtain wall with Aluminum Composite Panel Cladding (including width of groove) shall be measured in sqm. up to two decimal places.
57	21.17	Providing and fixing anodised aluminium grill (anodised transparent or dyed to required shade according to IS: 1868 with minimum anodic coating of grade AC 15) of approved design/ pattern, with approved standard section and fixed to the existing window frame with C.P. brass/ stainless steel screws @200 mm centre t,o centre, including cutting the grill to proper opening size for fixing and operation of handles and fixing approved anodised aluminium standard section around the opening, all complete as per requirement and direction of Engineer-inchar e. (Only weight of grill to be measured for payment
58		The Lump-sum amount taken from DSR-2023 excluding of above mentioned items.

Plumbing Work/Furnishing Items		
Sr. No.	DSR Item No.	Description
	PLUMBING (A)	
1	DSR 17.1.1	Providing and fixing water closet squatting pan (Indian type W.C. pan) with 100 mm sand cast Iron P or S trap, 10 litre low level white P.V.C. flushing cistern, including flush pipe, with manually controlled device (handle lever) conforming to IS : 7231, with all fittings and fixtures complete, including cutting and making good the walls and floors wherever required: White Vitreous china Orissa pattern W.C. pan of size 580x440 mm with integral type foot rests
2	DSR 17.3.1	Providing and fixing white vitreous china pedestal type water closet (European type) with seat and lid, 10 litre low level white vitreous china flushing cistern & C.P. flush bend with fittings & C.I. brackets, 40 mm flush bend, overflow arrangement with specials of standard make and mosquito proof coupling of approved municipal design complete, including painting of fittings and brackets, cutting and making good the walls and floors wherever required :W.C. pan with ISI marked white solid plastic seat and lid
3	DSR 17.5.3	Providing and fixing white vitreous china flat back half stall urinal of size 580x380x350 mm with white PVC automatic flushing cistern, with fittings, standard size C.P. brass flush pipe, spreaders with unions and clamps (all in C.P. brass) with waste fitting as per IS : 2556, C.I. trap with outlet grating and other couplings in C.P. brass, including painting of fittings and



		cutting and making good the walls and floors wherever required : Range of three half stall urinals with 10 litre P.V.C. automatic flushing cistern
4	DSR 17.7A	Providing and fixing wash basin with C.I. brackets, 15 mm dia CP Brass single hole basin mixer of approved quality and make, including painting of fittings and brackets, cutting and making good the walls wherever required:- (a) White Vitreous China Wash basin size 550x400 mm with a 15 mm CP Brass single hole basin mixer
5	DSR 17.7.4	Providing and fixing wash basin with C.I. brackets, 15 mm C.P. brass pillar taps, 32 mm C.P. brass waste of standard pattern, including painting of fittings and brackets, cutting and making good the walls wherever require: White Vitreous China Flat back wash basin size 550x 400 mm with single 15 mm C.P. brass pillar tap
6	DSR 17.10.1.1	Providing and fixing Stainless Steel A ISI 304 (18/8) kitchen sink as per IS:13983with C.I. brackets and stainless steel plug 40 mm, including painting of fittings and brackets, cutting and making good the walls wherever required :Kitchen sink with drain board510x1040 mm bowl depth 250 mm
7	DSR 17.16A	Providing and fixing 8 mm dia C.P. / S.S. Jet with flexible tube upto 1 metre long with S.S. triangular plate to European type W.C. of quality and make as approved by Engineer - in - charge.
8	DSR 17.22	Providing and fixing G.I. inlet connection for flush pipe connecting with W.C. pan.
9	DSR 17.22B	Providing and fixing CP Brass Single lever telephonic wall mixer of quality & make as approved by Engineer in charge. a) 15 mm nominal dia
10	DSR 17.28.2.1	Providing and fixing P.V.C. waste pipe for sink or wash basin including P.V.C. waste fittings complete. Flexible pipe 32 mm dia
11	DSR 18.54.1	Providing and fixing PTMT bib cock of approved quality and colour. 15mm nominal bore, 86 mm long, weighing not less than 88 gms
12	DSR 18.50	Providing and fixing C.P. brass long nose bib cock of approved quality conforming to IS standards and weighing not less than 810 gms.
	18.50.1	15 mm nominal bore
13	DSR 18.51	Providing and fixing C.P. brass long body bib cock of approved quality conforming to IS standards and weighing not less than 690 gms.
	18.51.1	15 mm nominal bore
14	DSR 18.53	Providing and fixing C.P. brass angle valve for basin mixer and geyser points of approved quality conforming to IS:8931



	18.53.1	15mm nominal bore
15	DSR 18.18	Providing and fixing ball valve (brass) of approved quality, High or low pressure, with plastic floats complete :
	18.18.3	25 mm nominal bore
16	DSR 17.31	Providing and fixing 600x450 mm beveled edge mirror of superior glass (of approved quality) complete with 6 mm thick hard board ground fixed to wooden cleats with C.P. brass screws and washers complete.
17	DSR 17.72	Providing and fixing PTMT towel ring trapezoidal shape 215 mm long, 200 mm wide with minimum distances of 37 mm from wall face with concealed fittings arrangement of approved quality and colour, weighing not less than 88 gms.
18	DSR 17.73.1	Providing and fixing PTMT towel rail complete with brackets fixed to wooden cleats with CP brass screws with concealed fittings arrangement of approved quality and colour. 450 mm long towel rail with total length of 495 mm, 78 mm wide and effective height of 88 mm, weighing not less than 170 gms
19	DSR 17.74	Providing and fixing PTMT shelf 440 mm long, 124 mm width and 36 mm height of approved quality and colour, weighing not less than 300 gms.
20	DSR 17.35.1.1	Providing and fixing soil, waste and vent pipes : 100 mm dia Sand cast iron S&S pipe as per IS: 1729
21	DSR 17.38.1.1	Providing and fixing bend of required degree with access door, insertion rubber washer 3 mm thick, bolts and nuts complete. 100 mm dia Sand cast iron S&S as per IS - 1729
22	DSR 18.58.1.2	Providing and fixing PTMT grating of approved quality and colour.
		Circular type
		125 mm nominal dia with 25 mm waste hole
23	DSR 17.60.1.1	Providing and fixing trap of self cleansing design with screwed down or hinged grating with or without vent arm complete, including cost of cutting and making good the walls and floors : 100 mm inlet and 100 mm outlet Sand cast iron S&S as per IS: 3989
24	DSR 12.41	Providing and fixing on wall face unplasticised Rigid PVC rain water pipes conforming to IS : 13592 Type A, including jointing with seal ring conforming to IS : 5382, leaving 10 mm gap for thermal expansion, (i) Single socketed pipes.
	12.41.2	110 mm diameter
25	DSR 12.42	Providing and fixing on wall face unplasticised - PVC moulded fittings/ accessories for unplasticised Rigid PVC rain water pipes conforming to IS : 13592 Type A, including jointing with seal ring conforming to IS : 5382, leaving 10 mm gap for thermal expansion.
	12.42.1	Coupler
	12.42.1.2	110 mm
	12.42.2	Single pushfit Coupler



	12.42.2.2	110 mm
	12.42.3	Single tee with door
	12.42.3.2	110x110x110 mm
	12.42.4	Single tee without door
	12.42.4.2	110x110x110 mm
	12.42.5	Bend 87.5°
	12.42.5.2	110 mm bend
	12.42.6	Shoe (Plain)
	12.42.6.2	110 mm Shoe
26	DSR 18.8	Providing and fixing Chlorinated Polyvinyl Chloride (CPVC) pipes, having thermal stability for hot & cold water supply, including all CPVC plain & brass threaded fittings, i/c fixing the pipe with clamps at 1.00 m spacing. This includes jointing of pipes & fittings with one step CPVC solvent cement and the cost of cutting chases and making good the same including testing of joints complete as per direction of Engineer in Charge.
		Concealed work, including cutting chases and making good the walls etc
	18.8.1	15 mm nominal dia Pipes
	18.8.2	20 mm nominal dia Pipes
27	DSR 18.9	Providing and fixing Chlorinated Polyvinyl Chloride (CPVC) pipes, having thermal stability for hot & cold water supply including all CPVC plain & brass threaded fittings This includes jointing of pipes & fittings with one step CPVC solvent cement, trenching, refilling & testing of joints complete as per direction of Engineer in Charge.
		External work
	18.9.4	32 mm nominal dia Pipes
	18.9.5	40 mm nominal dia Pipes
	18.9.7	65 mm nominal dia Pipes
	18.9.8	80 mm nominal dia Pipes
28	DSR 19.30.3.1	Constructing brick masonry chamber for underground C.I. inspection chamber and bends with bricks in cement mortar 1:4 (1 cement : 4 coarse sand) C.I. cover with frame (light duty) 455x610 mm internal dimensions, total weight of cover with frame to be not less than 38 kg (weight of cover 23 kg and weight of frame 15 kg), R.C.C. top slab with 1:1.5:3 mix (1 cement : 1.5 fine sand : 3 graded stone aggregate 20 mm nominal size), foundation concrete 1:5:10 (1 cement : 5 fine sand : 10 graded stone aggregate 40 mm nominal size), inside plastering 12 mm thick with cement mortar 1:3 (1 cement : 3 coarse sand), finished smooth with a floating coat of neat cement on walls and bed concrete etc. complete as per standard design: Inside dimensions 600x 850 mm and 45 cm deep for pipe line with three or more inlets : With common burnt clay F.P.S. (non modular) bricks of class designation 7.5
29	DSR 19.6	Providing and laying non-pressure NP2 class (light duty) R.C.C. pipes with collars jointed with stiff mixture of cement mortar in the proportion of 1:2 (1 cement : 2 fine sand) including testing of joints etc. complete :



		Inside dimensions 600x 850 mm and 45 cm deep for pipe line with three or more inlets :
	19.6.2	150 mm dia. R.C.C. pipe
	19.6.3	250 mm dia. R.C.C. pipe
30	DSR 17.71	Providing and fixing PTMT liquid soap container 109 mm wide, 125 mm high and 112 mm distance from wall of standard shape with bracket of the same materials with snap fittings of approved quality and colour, weighing not less than 105 gms
	FURNISHING ITEMS:	
31		Supplying and providing of Godrej Single Bed Model Adria
32		Supplying and providing of KRISHTHA Non-Revolution and Non-Tilting chair with Armrest
33		Supplying and providing of Godrej Wooden Coffee Table Model Victoria
34		Supplying and providing of Godrej Storewel Model KD Plain with 4 Shelves
35		Supplying and providing of Godrej Single Bed Mattresses Model Hero Mat 78 36 4
36		Supplying and providing of Godrej Pillow with cover model Nano
37		The Lump-sum amount taken from DSR, excluding of above mentioned items.

SEPTIC TANK WITH SOAK PIT		
Sr. No.	SOR Item No.	Description
1	2.8.1	Earth work in excavation by mechanical means (Hydraulic excavator) / manual means in foundation trenches or drains (not exceeding 1.5 m in width or 10 sqm on plan), including dressing of sides and ramming of bottoms, lift upto 1.5 m, including getting out the excavated soil and disposal of surplus excavated soil as directed, within a lead of 50 m. All kinds of soil.
2	2.27	Supplying and filling in plinth with sand under floors, including watering, ramming, consolidating and dressing complete.
3	4.1.3	Providing and laying in position cement concrete of specified grade excluding the cost of centering and shuttering - All work up to plinth level : 1:2:4 (1 cement : 2 coarse sand (zone-III) derived from natural sources : 4 graded stone aggregate 20 mm nominal size derived from natural sources)
4	5.33.1.2	Providing and laying in position ready mixed or site batched design mix cement concrete for reinforced cement concrete work; using coarse aggregate and fine aggregate derived from natural sources, Portland Pozzolana / Ordinary Portland /Portland Slag cement, admixtures in recommended proportions as per IS: 9103 to accelerate / retard setting of concrete, to improve durability and workability without impairing strength; including pumping of concrete to site of laying, curing, carriage for all leads; but excluding the cost of centering, shuttering, finishing and reinforcement as per direction of the engineer-in-charge; for the following grades of concrete. Note: Extra cement up to 10% of the minimum specified cement content in design mix shall be payable separately. In case the cement content in design mix is more than 110% of the specified minimum cement content, the



		contractor shall have discretion to either re-design the mix or bear the cost of extra cement All works upto plinth level Concrete of M30 grade with minimum cement content of 350 kg /cum
5	5.9.20	Centering and shuttering including strutting, propping etc. and removal of form for Suspended floors, roofs, landings, balconies and access platform with water proof ply 12 mm thick
6	5.22B.1	Steel reinforcement for R.C.C. work ready to use "cut and bend" rebars of approved make from factory/workshop to construction site including placing in position and binding all complete upto plinth level.. Thermo-Mechanically Treated bars of grade Fe-500D or more.
7	6.1.2	Brick work with common burnt clay F.P.S. (non modular) bricks of class designation 7.5 in foundation and plinth in: Cement mortar 1:6 (1 cement : 6 coarse sand)
8	13.1.2	12 mm cement plaster of mix : 1:6 (1 cement: 6 fine sand)
9	13.18	Neat cement punning.
10	19.32.1	Making soak pit 2.5 m diameter 3.0 metre deep with 45 x 45 cm dry brick honey-comb shaft with bricks and S.W. drain pipe 100mm diameter, 1.8 m long complete as per stanDSRd design. With common burnt clay F.P.S. (non modular) bricks of class designation 7.5
11	18.41.8	80mm diameter pipe.

BOUNDARY WALL, GATE WITH SECURITY ROOM

Sr. No.	SOR Item No.	Description
1	2.8.1	Earth work in excavation by mechanical means (Hydraulic excavator) / manual means in foundation trenches or drains (not xceeding 1.5 m in width or 10 sqm on plan), including dressing of sides and ramming of bottoms, lift upto 1.5 m, including getting out the excavated soil and disposal of surplus excavated soil as directed, within a lead of 50 m. All kinds of soil.
2	4.1.3	Providing and laying in position cement concrete of specified grade excluding the cost of centering and shuttering - All work up to plinth level : 1:2:4 (1 cement : 2 coarse sand (zone-III) derived from natural sources : 4 graded stone aggregate 20 mm nominal size derived from natural sources)
3	2.27	Supplying and filling in plinth with sand under floors, including watering, ramming, consolidating and dressing complete.
4	2.25	Filling available excavated earth (excluding rock) in trenches, plinth, sides of foundations etc. in layers not exceeding 20cm in depth, consolidating each deposited layer by ramming and watering, lead up to 50 m and lift upto 1.5 m.
5	5.33.1.2	Providing and laying in position ready mixed or site batched design mix cement concrete for reinforced cement concrete work; using coarse aggregate and fine aggregate derived from natural sources, Portland Pozzolana / Ordinary Portland /Portland Slag cement, admixtures in recommended proportions as per IS: 9103 to accelerate / retard setting of concrete, to improve durability and workability without impairing strength; including pumping of concrete to site of laying, curing, carriage for all leads; but excluding the cost of centering, shuttering, finishing and reinforcement as per direction of the engineer-in-charge; for the following grades of concrete. Note: Extra cement up to 10% of the minimum specified cement content in design mix shall be payable separately. In case the cement content in design mix is more than 110% of the specified minimum cement content, the



		contractor shall have discretion to either re-design the mix or bear the cost of extra cement All works upto plinth level Concrete of M30 grade with minimum cement content of 350 kg /cum
6	5.33.2.2	Providing and laying in position ready mixed or site batched design mix cement concrete for reinforced cement concrete work; using coarse aggregate and fine aggregate derived from natural sources, Portland Pozzolana /Ordinary Portland /Portland Slag cement, admixtures in recommended proportions as per IS: 9103 to accelerate / retard setting of concrete, to improve durability and workability without impairing strength; including pumping of concrete to site of laying, curing, carriage for all leads; but excluding the cost of centering, shuttering, finishing and reinforcement as per direction of the engineer-in-charge; for the following grades of concrete. Note: Extra cement up to 10% of the minimum specified cement content in design mix shall be payable separately. In case the cement content in design mix is more than 110% of the specified minimum cement content, the contractor shall have discretion to either re-design the mix or bear the cost of extra cement All works above plinth level upto floor V level Concrete of M30 grade with minimum cement content of 350 kg /cum
7	5.22C.1	Steel reinforcement for R.C.C. work ready to use "cut and bend" rebars of approved make from factory/workshop to construction site including placing in position and binding all complete above plinth level. Thermo-Mechanically Treated bars of grade Fe-500D or more.
8	5.9.1	Centering and shuttering including strutting, propping etc. and removal of form for Foundations, footings, bases of columns, etc. for mass concrete
9	5.9.2	Centering and shuttering including strutting, propping etc. and removal of form for Walls (any thickness) including attached pilasters, buttresses, plinth and string courses etc.
10	5.9.20	Centering and shuttering including strutting, propping etc. and removal of form for Suspended floors, roofs, landings, balconies and access platform with water proof ply 12 mm thick
11	13.1.2	12 mm cement plaster of mix : 1:6 (1 cement: 6 fine sand)
12	13.80	Providing and applying white cement based putty of average thickness 1 mm, of approved brand and manufacturer, over the plastered wall surface to prepare the surface even and smooth complete.
13	13.47.1	Finishing walls with Premium Acrylic Smooth exterior paint with Silicone additives of required shade: New work (Two or more coats applied @ 1.43 ltr/10 sqm over and including priming coat of exterior primer applied @ 2.20 kg/10 sqm)
14	6.1.2	Brick work with common burnt clay F.P.S. (non modular) bricks of class designation 7.5 in foundation and plinth in: Cement mortar 1:6 (1 cement : 6 coarse sand)
15	7.38.1.1	Stone tile work for wall lining upto 10 m height with special adhesive over 12mm thick bed of cement mortar(1:3) including pointing in the white cement with an admixture of pigment to match the stone shed. Granite stone of any colour and shade
16	21.1.1.1	Providing and fixing aluminium work for doors, windows, ventilators and partitions with extruded built up standSRd tubular sections/ appropriate Zsections and other sections of

		approved make conforming to IS: 733 and IS:1285, fixing with dash fasteners of required dia and size, including necessary filling up the gaps at junctions, i.e. at top, bottom and sides with required EPDM rubber/ neoprene gasket etc. Aluminium sections shall be smooth, rust free, straight, mitred and jointed mechanically wherever required including cleat angle, Aluminium snap beading for glazing / paneling, C.P. brass / stainless steel screws, all complete as per architectural drawings and the directions of Engineer-in-charge. (Glazing, paneling and dash fasteners to be paid for separately) : For fixed portion, Anodised aluminium (anodised transparent or dyed to required shade according
17	21.2.1	Providing and fixing 12 mm thick pre-laminated particle board flat pressed three layer or graded wood particle board conforming to IS: 12823 Grade I Type II, in panelling fixed in aluminum doors, windows shutters and partition frames with C.P. brass / stainless steel screws etc. complete as per architectural drawings and directions of engineer-in-charge. 21.2.1 Pre-laminated particle board with decorative lamination on one side and balancing lamination on other side
18	21.3.2	Providing and fixing glazing in aluminium door, window, ventilator shutters and partitions etc. with EPDM rubber / neoprene gasket etc. complete as per the architectural drawings and the directions of engineer-in-charge . (Cost of aluminium snap beading shall be paid in basic item): With float glass panes of 5 mm thickness (weight not less than 12.50 kg/sqm)
19	10.28	Providing and fixing stainless steel (Grade 304) railing made of Hollow tubes, channels, plates etc., including welding, grinding, uffiing, polishing and making curvature wherever required) and fitting the same with necessary stainless steel nuts and bolts complete, i/c fixing the railing with necessary accessories & stainless steel dash fasteners , stainless steel bolts etc., of required size, on the top of the floor or the side of waist slab with suitable arrangement as per approval of Engineer-in-charge, (for payment purpose only weight of stainless steel members shall be considered excluding fixing accessories such as nuts, bolts, fasteners etc

PARKING, DRIVEWAY AND WALK WAY

Sr. No.	SOR Item No.	Description
1	2.28	Surface dressing of the ground including removing vegetation and in-equalities not exceeding 15 cm deep and disposal of rubbish, lead up to 50 m and lift up to 1.5 m.
2	2.27	Supplying and filling in plinth with sand under floors, including watering, ramming, consolidating and dressing complete.
3	16.91.2	Providing 80 mm thick C.C. paver block of M-35 grade with approved color design and pattern.
4	4.1.3	Providing and laying in position cement concrete of specified grade excluding the cost of centering and shuttering - All work up to plinth level : 1:2:4 (1 cement : 2 coarse sand (zone-III) derived from natural sources : 4 graded stone aggregate 20 mm nominal size derived from natural sources)



TUBEWELL & RAIN WATER HARVESTING		
Sr. No.	SOR Item No.	Description
1	2.8.1	Earth work in excavation by mechanical means (Hydraulic excavator) / manual means in foundation trenches or drains (not xceeding 1.5 m in width or 10 sqm on plan), including dressing of sides and ramming of bottoms, lift upto 1.5 m, including getting out the excavated soil and disposal of surplus excavated soil as directed, within a lead of 50 m.All kinds of soil.
2	5.3	Reinforced cement concrete work in beams, suspended floors, roofs having slope up to 15° landings, balconies, shelves, chajjas, lintels, bands, plain window sills, staircases and spiral stair cases above plinth level up to floor five level, excluding the cost of centering, shuttering, finishing and reinforcement with 1:1.5:3 (1 cement : 1.5 coarse sand(zone-III) derived from natural sources : 3 graded stone aggregate 20 mm nominal size derived from natural sources).
3	23.5	Supplying, filling, spreading & leveling stone boulders of size range 5 cm to 20 cm,in recharge pit, in the required thickness, for all leads & lifts, all complete as per direction of Engineer-in-charge.
4	23.6	Supplying, filling, spreading & leveling gravels of size range 5 mm to 10 mm, in the recharge pit, over the existing layer of boulders, in required thickness, for all leads & lifts, all complete as per direction of Engineer-in-charge.
5	23.7	Supplying, filling, spreading & leveling coarse sand of size range 1.5 mm to 2 mm in recharge pit, in required thickness over gravel layer, for all leads & lifts, all complete as per direction of Engineer -in-charge.
6	23.8	Gravel packing in tubewell construction in accordance with IS: 4097, includingproviding gravel fine/ medium/ coarse, in required grading & sizes as per actualrequirement, all complete as per direction of Engineer-in-charge.
7	6.23	Honey-comb brick work 10 / 11.4 cm thick with common burnt clay bricks of class designation 7.5 in super structure above plinth level upto floor V level with cement mortar 1:4 (1 cement : 4 coarse sand).
8	23.1.1.2	Boring/drilling bore well of required dia for casing/ strainer pipe, by suitable method prescribed in IS: 2800 (part I), including collecting samples from different strata, preparing and submitting strata chart/ bore log, including hire & running charges of all equipments, tools, plants & machineries required for the job, all complete as per direction of Engineer-in-charge, upto 90 metre depth below ground level. All types of soil 350 mm dia
9	23.1.2.2	Boring/drilling bore well of required dia for casing/ strainer pipe, by suitable method prescribed in IS: 2800 (part I), including collecting samples from different strata, preparing and submitting strata chart/ bore log, including hire & running charges of all equipments, tools, plants & machineries required for the job, all complete as per direction of Engineer-in-charge, upto 90 metre depth below ground level. Rocky strata including Boulders 350 mm dia

10	23.2.1.2	Boring/drilling bore well of required dia for casing/strainer pipe, by suitable method prescribed in IS: 2800 (part I), including collecting samples from different strata, preparing and submitting strata chart/ bore log, including hire & running charges of all equipments, tools, plants & machineries required for the job, all complete as per direction of Engineer-in-charge, upto 90 - 150 metre depth below ground level. All types of soil 350 mm dia
11	23.2.2.2	Boring/drilling bore well of required dia for casing/strainer pipe, by suitable method prescribed in IS: 2800 (part I), including collecting samples from different strata, preparing and submitting strata chart/ bore log, including hire & running charges of all equipments, tools, plants & machineries required for the job, all complete as per direction of Engineer-in-charge, upto 90 - 150 metre depth below ground level. Rocky strata including Boulders 350 mm dia
12	23.3.3	Supplying, assembling, lowering and fixing in vertical position in bore well, unplasticized PVC medium well casing (CM) pipe of required dia, conforming to IS: 12818, including required hire and labour charges, fittings & accessories etc. all complete, for all depths, as per direction of Engineer -in-charge. 200 mm nominal size dia
13	23.4.3	Supplying, assembling, lowering and fixing in vertical position in bore well unplasticized PVC medium well screen (RMS) pipes with ribs, conforming to IS: 12818, including hire & labour charges, fittings & accessories etc. all complete, for all depths, as per direction of Engineer-in-charge. 200 mm nominal size dia
14	DSR 18.9	Providing and fixing Chlorinated Polyvinyl Chloride (CPVC) pipes, having thermal stability for hot & cold water supply including all CPVC plain & brass threaded fittings This includes jointing of pipes & fittings with one step CPVC solvent cement, trenching, refilling & testing of joints complete as per direction of Engineer in Charge.
	18.9.8	80 mm nominal dia Pipes

LANDSCAPING AND GARDENING		
Sr. No.	ITEM No.	Description
1	DSR-2020 IT NO. 2.1	Trenching in ordinary soil up to a depth of 60 cm including removal and stacking of serviceable materials and then disposing of surplus soil, by spreading and neatly levelling within a lead of 50 m and making up the trenched area to proper levels by filling with earth or earth mixed with sludge or / and manure before and after flooding trench with water (excluding cost of imported earth, sludge or manure).
2	DSR-2020 IT NO. 2.2	Supplying and stacking of good earth at site including royalty and carriage upto 5 km lead complete (earth measured in stacks will be reduced by 20% for payment).



3	DSR-2020 IT NO. 2.3	Supplying and stacking sludge at site including royalty and carriage upto 5km lead complete (sludge measured in stacks will be reduced by 8% for payment).
4	DSR-2020 IT NO. 2.4	Supplying and stacking at site dump manure from approved source, including carriage upto 5 km lead complete (manure measured in stacks will be reduced by 8% for payment)
a)		Screened through sieve of I.S. designation 20 mm DSR Horticulture _2020 Page No. 83 Item No. 2.4.1
b)		Screened through sieve of I.S. designation 16 mm DSR Horticulture _2020 Page No. 83 Item No. 2.4.2
c)		Screened through sieve of I.S. designation 4.75 mm DSR Horticulture _2020 Page No. 83 Item No. 2.4.3
5	DSR 2020 IT NO. 2.5	Rough dressing the trenched ground including breaking clods
6	DSR-2020 IT NO. 2.8	Spreading of sludge, dump manure and/or good earth in required thickness as per direction of officer-in-charge (cost of sludge, dump manure and/ or good earth to be paid separately).
7	DSR-2020IT NO.2.9	Mixing earth and sludge or manure in the required proportion specified or directed by the Officer-in-charge
8	DSR-2020 IT NO. 2.13	Preparation of beds for hedging and shrubbery by excavating 60 cm deep and trenching the excavated base to a further depth of 30 cm, refilling the excavated earth after breaking clods and mixing with sludge or manure in the ratio of 8:1 (8 parts of stacked volume of earth after reduction by 20%: one part of stacked volume of sludge or manure after reduction by 8%), flooding with water, filling with earth if necessary, watering and finally fine dressing, leveling etc. including stacking and disposal of materials declared unserviceable and surplus earth by spreading and leveling as directed, within a lead of 50 m, lift up to 1.5 m complete (cost of sludge, manure or extra earth to be paid for separately)
9	DSR-2020 IT NO.2.34	Providing & laying Selection no. 1 doob grass turf with earth 50mm to 60mm thickness of existing ground prepared with proper level and ramming with required tools wooden and then rolling the surface with light roller make the sarface smoothen and light watering the same maintenance for 30 days or more till the grass establish properly, as per direction of the officer in charge.
10	DSR-2020 IT NO. 2.14	Digging holes in ordinary soil and refilling the same with the excavated earth mixed with manure or sludge in the ratio of 2:1 by volume (2 parts of stacked volume of earth after reduction by 20% : 1 part of stacked volume of manure after reduction by 8%) flooding with water, dressing including removal of rubbish and surplus earth, if any, with all leads and lifts (cost of manure, sludge or extra good earth if needed to be paid for separately)
		Holes 1.2 m dia and 1.2 m deep DSR Horticulture _2020 Page No. 85 Item No. 2.14.1
		Holes 90 cm dia, and 90 cm deep DSR Horticulture _2020 Page No. 85 Item No. 2.14.2
11		Supply and plantation of Tree plants
	DSR-2020 IT NO. 10312	Millingtonia hortensis of height 150-165 cm. in big poly bag of size 25 cm as per direction of the officer-in-charge
	DSR-	Bauhinia blakeana (Kachnar) height 120-150 cm. in big poly bag size25 cm



	2020 IT NO. 10262	
	DSR- 2020 IT NO. 10271	Cassia fistula (Amaltash) height 120-135 cm. in big poly bag size 25 cm
	DSR- 2020 IT NO. 10279	Delonix regia (Gulmohar) height 150-165 cm. in big poly bag size 25 cm
	DSR- 2020 IT NO. 10397	Nyctanthes arbor-tristis (Hasingar) of ht. 90-105 cm in Earthen pots of size 20 cm as per direction of the officer-in-charge.
	DSR- 2020 IT NO. 10335	Providing and stacking of Saraca indica (Sita Ashok) of height 105-120 cm. in big poly bags of size 25 cm as per direction of the officer-in-charge.
	DSR- 2020 IT NO. 10265	Bottle palm ht. 210-240 cm bottom girth 30-35 cm well developed in big HDPE bag
12		Supply and plantation of Shade Loving Foliage plants
	DSR- 2020 IT NO. 10011	Aglaonema Parrot Jungle Plant (three in one), having ht 30 cm and above with 20 to 25 leaves, well developed, fresh and healthy with lush green foliage in 25 cm of size.
	DSR- 2020 IT NO. 10024	Areca Palm having ht. 90 cm to 1.20 m with 4 to 5 suckers, well developed, fresh and healthy with lush green foliage in 25 cm size of Earthen pot /Plastic pot.
	DSR- 2020IT NO.10029	Brassia Variegated having ht. 30 cm, well developed with fresh and healthy foliage in 20 cm size of Earthen pot / Plastic pot.
	DSR- 2020 IT NO. 10036	Croton Baby Golden plant (three in one), having ht. 30cm, multi branches,well developed with fresh and healthy foliage in 25 cm size of Earthen pot / Plastic pot.
	DSR- 2020 IT NO. 10047	Dieffenbachia Maculata having ht. 45 cm to 60 cm with 5 and above leaves,well developed, fresh and healthy & attractive variegated foliage in 25 cm size of Earthen pot / Plastic pot.
	DSR- 2020 IT NO. 10048	Dracaena 'Song of India' plant (three in one), having ht. 30 cm and above, multibranched, well developed with fresh and healthy leaves in 25 cm size of Earthen pot / Plastic pot.
	DSR- 2020 IT NO. 10180	StanDSRd Rose (H.T. variety) 3 to 4 healthy branch 90 cm and above ht.well developed with one and above flowers in 25 cm Earthen Pot
13	DSR- 2020	Winter seasonal seedlings/cuttings at site of work well developed and healthy free from
		Item code 10434
		Item code 10436
		Item code 10442
		Item code 10446
		Item code 10449
		Item code 10453



Item code 10461		
14	DSR-2020IT NO.2.39.1	Complete maintenance of the entire garden features having as per yard stick in the garden area i.e. lawn trees, shrubs, edge, flower beds, foliage, creepers etc. including hoeing, weeding, pruning, replacement of plants, gap filling, watering, mowing of lawn, grass cutting by lawn mover and brush cutter, removal of garden waste, applying insecticide, pesticide & fertilizers (whenever required) top dressing of lawn with good earth and manure and maintenance of other garden related works as directed by office-in-charge (Cost of Good Earth, Manure, Fertilizer, Insecticide, Pesticide, lawn mover and brush cutter with fuel & other T & P material/ articles shall be provided by the department.) Prestigious works/ Rajpath/ C Hexagon (1 Mali for 1.00 Acre)
15	11.3.2 of DSR E & M-2022	Erection of metallic pole of following in cement concrete 1:3"6 (cement : 3 coarse sand : 6 grade stone aggregate 40mm nominal size) foundation including excavation and refilling etc. required.
16	DSR 1.7.2	Circuit/submain wiring in PVC conduit - Wiring for Circuit/submain wiring along with earth wire the following sizes of FR PVC insulated copper conductor, single core cable in surface/recessed PVC conduit as required. 2 x 2.5 sq.mm. + 1 x 2.5 sq.mm. earth wire



Electrical Work

Sr. No.	Reference Code	Description of Items
<u>SCHEDULE -1 - POINT WIRING (MODULAR)</u>		
1	DSR- E&M -1.10	Wiring for light point/ fan point/ exhaust fan point/ call bell point with 1.5 sq.mm FRLS PVC insulated copper conductor single core cable in surface / recessed medium class PVC conduit, with modular switch, modular plate, suitable GI box and earthing the point with 1.5 sq.mm FRLS PVC insulated copper conductor single core cable etc. as required.
	DSR- E&M -1.10-1	Group A
	DSR- E&M -1.10-2	Group B
2	DSR- E&M -1.11	Wiring for twin control light point with 1.5 sq.mm FRLS PVC insulated copper conductor single core cable in surface / recessed medium class PVC conduit, 2 way modular switch, modular plate, suitable GI box and earthing the point with 1.5 sq.mm FRLS PVC insulated copper conductor single core cable etc. as required.
3	DSR- E&M -1.14	Wiring for circuit/ submain wiring alongwith earth wire with the following sizes of FRLS PVC insulated copper conductor, single core cable in surface/ recessed medium class PVC conduit as required.
	DSR- E&M -1.14.1	2 X 1.5 sq.mm + 1X 1.5 sq.mm earth wire
	DSR- E&M -1.14.2	2 X 2.5 sq. mm +1X 2.5 sq.mm earth wire
	DSR- E&M -1.14.3	2 X 4 sq. mm +1X 4 sq. mm earth wire
	DSR- E & M -1.14.4	2 X 6 sq. mm +1X 6 sq. mm earth wire
	DSR- E & M -1.14.10	4 X 10 sq. mm+ 2 X 6 sq. mm earth wire
4	DSR- E & M -1.22	Supplying and fixing metal box of following sizes (nominal size) on surface or in recess with suitable size of phenolic laminated sheet cover in front including painting etc. as required.
	DSR- E & M -1.22.2	100 mm X 100 mm X 60 mm deep
	DSR- E & M -1.22.3	150 mm X 75 mm X 60 mm deep
5	DSR- E & M -1.24	Supplying and fixing following modular switch/socket on the existing modular plate & switch box including connections but excluding modular plate etc. as required.
	DSR- E & M -1.24.5	6 pin 15/16 A socket outlet
	DSR- E & M -1.24.6	Telephone socket outlet
6	DSR- E & M -1.25	Supplying and fixing 2 module stepped type electronic fan regulator on the existing modular plate switch box including connection but excluding modular plates as required.
7	DSR- E & M -1.26	Supplying and fixing modular blank plate on the existing modular plate & switch box excluding modular plates as required.
8		Providing following type of Modular Type Accessories mounted with PVC / metallic/Wooden box, single mounting base frame covered with textured / metallic/white front plate , modules erected with necessary connections as per site situation directed by Engineer In charge. (20) Modular Buzzer Cat-III
9	DSR- E & M -1.27	Supplying and fixing following size / modules, GI box along with modular base & cover plate for modular switches recess etc. as required
	DSR- E & M -1.27.1	1 or 2 Module (75mmX75mm)
	DSR- E & M -1.27.3	4 Module (125mmX75mm)
10	DSR- E & M -1.28	Supplying and fixing following modular base & cover plate on existing



		modular metal boxes etc. as required.
	DSR- E & M -1.28.1	1 or 2 Module (75mmX75mm)
	DSR- E & M -1.28.3	4 Module
11	DSR- E & M -1.31	Supplying and fixing suitable size GI box with modular plate and cover in front on surface or in recess, including providing and fixing 3 pin 5/6 A modular socket outlet and 5/6 A modular switch, connections etc. as required.
12	DSR- E & M -1.32	Supplying and fixing suitable size GI box with modular plate and cover in front on surface or in recess, including providing and fixing 6 pin 5/6 & 15/16 A modular socket outlet and 15/16 A modular switch, connections etc. as required
13	DSR- E & M -1.33	Supplying and fixing 3 pin, 5 A ceiling rose on the existing junction box/ wooden block including connections etc. as required
14		Supplying & erecting fan hook box of 10 mm M.S. round bar bounded to the RCC bars up to 50mm length each side and pierced through a 16 Gauge M.S. box / Heavy Duty PVC box complete erected concealed in Ceiling with necessary finishing.
15	DSR- E & M -1.57	Supplying & fixing suitable size GI box with modular plate and cover in front on surface or in recess including providing and fixing 25 A modular socket outlet and 25 A modular SP MCB, "C" curve including connections, painting etc. as required.
SCHEDULE -2 - MEDIUM VOLTAGE DISTRIBUTION (SWITCHES,PANELS AND CABLES)		
16	DSR- E & M -2.3	Supplying and fixing following way, single pole and neutral, sheet steel, MCB distribution board, 240 V, on surface/ recess, complete with tinned copper bus bar, neutral bus bar, earth bar, din bar, interconnections, powder painted including earthing etc. as required. (But without MCB /RCCB /Isolator)
	DSR- E & M -2.3.2	8 way , Double door
17	DSR- E & M -2.4	Supplying and fixing following way, horizontal type three pole and neutral, sheet steel, MCB distribution board, 415 V, on surface/ recess, complete with tinned copper bus bar, neutral bus bar, earth bar, din bar, interconnections, powder painted including earthing etc. as required. (But without MCB/RCCB/Isolator)
	DSR- E & M -2.4.3	8 way (4 + 24), Double door
18	DSR- E & M -2.10	Supplying and fixing 5 A to 32 A rating, 240/415 V, 10 kA, "C" curve, miniature circuit breaker suitable for inductive load of following poles in the existing MCB DB complete with connections, testing and commissioning etc. as required.
	DSR- E & M -2.10.1	Single pole
	DSR- E & M -2.10.2	Double pole
19	DSR- E & M -2.13	Supplying and fixing following rating, four pole, 415 V, isolator in the existing MCB DB complete with connections, testing and commissioning etc. as required.
	DSR- E & M -2.13.2	63 A
20	DSR- E & M -2.14	Supplying and fixing following rating, double pole, (single phase and neutral), 240 V, residual current circuit breaker (RCCB), having a sensitivity current 30 mA in the existing MCB DB complete connections, testing and commissioning etc. as required. with
	DSR- E & M -2.14.1	25A
21	DSR- E & M -2.15	Supplying and fixing following rating, four pole, (three phase and neutral),



		415 volts, residual current circuit breaker (RCCB), having a sensitivity current 30 mA in the existing MCB DB complete with connections, testing and commissioning etc. as required.
	DSR- E & M -2.15.2	40A
	DSR- E & M -2.15.3	63A
22	DSR- E & M -2.16	Supplying and fixing DP sheet steel enclosure on surface/ recess along with 25/32 A 240 V "C" curve DP MCB complete with connections, testing and commissioning etc. as required.
23	DSR- E & M -2.17	Supplying and fixing TP sheet steel enclosure on surface/ recess along with 16/25/32 A 415 V "C" curve TP MCB complete with connections, testing and commissioning etc. as required.
24	DSR- E & M -2.21	Providing and fixing M.V. danger notice plate of 200 mm X 150 mm, made of mild steel, at least 2 mm thick, and vitreous enameled white on both sides, and with inscription in single red colour on front side as required.
25	DSR- E & M -2.23	Supplying and fixing Cable End Box (Loose wire Box) suitable for following single pole and neutral , sheet steel , MCB distribution board, 240 volts, on surface / recess, complete with testing commissioning etc. as required.
	DSR- E & M -2.23.2	For, 8 way Double Door SPN MCBDB
26	DSR- E & M -2.24	Supplying and fixing Cable End Box (Loose wire Box) suitable for following triple pole and neutral , sheet steel , MCB distribution board, 415 volts, on surface / recess, complete with testing commissioning etc. as required.
	DSR- E & M -2.24.3	For, 8 way Double Door TPN MCBDB
27	DSR- E & M -2.2	Providing and fixing following rating and breaking capacity and pole MCCB with thermomagnetic release and terminal spreaders in existing cubicle panel board including drilling holes in cubicle panel, making connections, etc. as required.
	DSR- E & M -2.2.13	100 A,30KA,FPMCCB
	DSR- E & M -2.2.14	125 A,36KA,FPMCCB
	DSR- E & M -2.2.15	200 A,36KA,FPMCCB
	DSR- E & M -2.2.16	250 A,36KA,FPMCCB
	DSR- E & M -2.2.19	630 A,50KA,FPMCCB
28		Providing and erecting Approved make Earth fault Relay suitable to mount with inter connection suitable to following size of moulded case circuit breaker having CT ratio & MCCB rating as following along with shunt trip 220V AC. with all internal connections & complete erected in existing M.S.housing..
		(2) 125 A -200 A , CT Ratio 1/200
		(3) 250 A -400 A , CT Ratio 1/400
		(4) 600 A -800 A , CT Ratio 1/800
29		Providing and erecting following additional parts for panel mounting MCCBs
		(A)Extended operating rotary handle with pad lock with three position trip,off,on suitable for 25A to 250 A panel mounting cat-III
		(B)Extended operating rotary handle with pad lock with three position trip,off,on suitable for 400A to 630 A panel mounting cat-III
30		Approved make standard Draw out type 4 Pole Air circuit breaker. Having 50 kA breaking capacity with ICU=ICS=ICW (1 sec)Vsr=690 v, Ui=1kv ,impulse voltage=12 kv with following type of relay and accessories. (2) Electrically Draw out type (EDO) with following type of relay system(B) with microprocessor Release with over load, short circuit, earth fault protection and metering display in modular design with LED display and



		Test Trip button facility, CTs and auxiliary contacts, of following current ratings. (ii) 1000Amp 50 kA Cat III
31		Providing & erecting Accessories For Air Circuit Breakers as follows:
		(B) Lockable Trip Push Button Type A,B,C,D
		(C) Lockable Trip Push Button Kit L, M, LM, MN
		(E) Locking of ACB in Any Position
		(F) Racking Inter Lock
		(G) Door Inter Lock
32		Providing & erecting weather proof, dust & vermin proof, floor mounted front operated indoor type cubical panel board necessary IP-42 and above protection as per approval from engineer incharge made from 14 SWG thick CRC M.S. sheet for outer body & doors, 16 SWG thick CRC M.S. sheet for internal partitions with necessary accessories, supporting angles/ flats channel including cutting, bending, drilling, welding, riveting with internal partitions & cable alley as per requirements & instruction of engineer-in-charge with erection of supplied switch gears, BUSBARS, suitable size of inter connecting PVC copper wire / copper-aluminium strips, rubber grommets, rib, bakelite control fuses/MCB for measuring instruments, earth bus & earth bolts, foundation flange - bolts-base Plates, sufficient nos. of hinged doors, handles with locking arrangement and rubber gasket, heavy duty end terminal connection, danger notice board, necessary ventilation, earthing strip complete. The Panel shall be painted with epoxy powder coating. (The rates excludes the cost of switchgears, bus bars, inter connecting mains & Copper Aluminium strips, meters, Fuses etc. The dimension shall be measured excluding base beams) The panel shall be supplied with following approved manufacturers with following size.
		(A) locally fabricated panel board (i) with 350 mm depth
		(A) locally fabricated panel board (iv) with 1000 mm. depth
33		Providing & erecting weather proof, dust & vermin proof, floor mounted front operated outdoor type double door cubical panel board necessary IP-54 and above protection as per approval from engineer incharge made from 14 SWG thick CRC M.S. sheet for outer body & doors, 16 SWG thick CRC M.S. sheet for internal partitions with necessary accessories, supporting angles/ flats channel including cutting, bending, drilling, welding, riveting with internal partitions & cable alley as per requirements & instruction of engineer-in-charge with erection of supplied switch gears, BUSBARS, suitable size of inter connecting PVC copper wire / copper-aluminium strips, rubber grommets, rib, bakelite control fuses/MCB for measuring instruments, earth bus & earth bolts, foundation flange - bolts-base Plates, sufficient nos. of hinged doors, handles with locking arrangement and rubber gasket, heavy duty end terminal connection, danger notice board, necessary ventilation, earthing strip complete. The Panel shall be painted with epoxy powder coating. (The rates excludes the cost of switchgears, bus bars, inter connecting mains & Copper Aluminium strips, meters, Fuses etc. The dimension shall be measured excluding base beams) The panel shall be supplied with following approved manufacturers with following size.
		(A) locally fabricated panel board (ii) With 550 mm. Depth
34		Providing, erecting, fabricating the M.S. structure as per requirement on site incorporating proper size of M.S. angles, square, round, flats, bars, channels, sections complete with cutting, welding, grinding & finishing



		duly painted with one coat of red oxide with erection on site as per direction of engineer in charge with necessary grouting, cementing, plastering & finishing complete.
35		Supplying and erecting triple pole & neutral 440V/ 500V panel mounting Aluminium Busbars with four equal Nos. of bus having current density not more than 0.8 Amp. / sq.mm (Rated current / cross section area) duly wrapped with colour insulating tape for phase sequence of following current carrying capacity, erected with necessary bus bar supports /insulators, main cable socket to each busbar,erected in existing cubical panel with necessary connections.
		(B) Suitable for 200 Amp. Capacity
		(C) Suitable for 300 Amp. Capacity
		(E) Suitable for 630 Amp. capacity
		(G) Suitable for 1200 Amp.capacity
36		Providing and erecting multifunctional meter suitable for application of Power monitoring and showing measurement of following Voltage, Frequency, Apparent energy, Apparent power, Active and reactive energy, Active and reactive power, Average voltage Vavg, Peak demand power PM, QM, SM, Demand power P, Q, S, Apparent power S, S1, S2, S3, Unbalance current, Power factor and displacement PF (signed, four quadrant), Calculated neutral current, Active, reactive, apparent energy (signed, four quadrant), Active power P, P1, P2, P3, Voltage U21, U32, U13, V1, V2, V3, Phase currents, Average current lag, Peak demand currents, Reactive power Q, Q1, Q2, Q3, Demand current I1, I2, I3, [Us] rated supply voltage 40...300 V AC 45...65 Hz, 40...300 V DC, Network frequency 50 Hz, Type of network 3P, Display type 7 segments LED, Display colour Red, Messages display capacity 3 fields of 4 characters, Display digits 12 digit(s) - 14.2 mm in height
37		Providing & erecting L.T. Current Transformer with bar primary 50/5 to 1000/5 ratio 15 VA burden erected in existing CRCA box duly secured with insulating materials connected to the meter
38		Supplying and erecting approved make suitable panel indicator LED type lamp, lens cover, complete erected with necessary connections.
39	DSR -E&M -5-4	Earthing with G.I. earth plate 600 mm X 600 mm X 6 mm thick including accessories, and providing masonry enclosure with cover plate having locking arrangement and watering pipe of 2.7 metre long etc. with charcoal/ coke and salt as required.
40	DSR -E&M -5-6	Earthing with copper earth plate 600 mm X 600 mm X 3 mm thick including accessories, and providing masonry enclosure with cover plate having locking arrangement and watering pipe of 2.7 metre long etc. with charcoal/ coke and salt as required.
41	DSR -E&M -5-7	Supplying and laying 6 SWG G.I. wire at 0.50 metre below ground level for conductor earth electrode, including connection/ termination with GI thimble etc. as required.
42	DSR -E&M -5-14	Providing and fixing 25 mm X 5 mm copper strip on surface or in recess for connections etc. as required.
43	DSR -E&M -5-15	Providing and fixing 25 mm X 5 mm G.1. strip on surface or in recess for connections etc. as required.
44	DSR -E&M -5-16	Providing and fixing 6 SWG dia G.I. wire on surface or in recess for loop earthing as required.
45		Providing and erecting XLPE(IS:7098)(I)-88 ISI armoured cable multistrand



		Aluminium conductor for 1.1 KV. to be laid on wall with necessary clamps or in existing trench / pipe of following size of cables (C) 3 1/2 core 50 Sq. mm (25 Sq.1/2 mm core)
46		Providing and erecting XLPE(IS:7098)(I)-88 ISI armoured cable multistrand Aluminium conductor for 1.1 KV. to be laid on wall with necessary clamps or in existing trench / pipe of following size of cables (H) 3 1/2 core 185 Sq. mm (95 Sq. mm 1/2 core)
47		Providing and erecting XLPE(IS:7098)(I)-88 ISI armoured cable multistrand Aluminium conductor for 1.1 KV. to be laid on wall with necessary clamps or in existing trench / pipe of following size of cables (I) 3 1/2 core 240 Sq. mm(120 Sq. mm 1/2 core)
48		Providing and erecting XLPE (IS:7098)(I)-88 ISI armoured cable multistrand / Solid Aluminium conductor for 1.1 KV. to be laid on wall with necessary clamps or in existing trench / pipe of following size of cables (C) 4 core 10 Sq. mm
49		Providing and erecting XLPE (IS:7098)(I)-88 ISI armoured cable multistrand Aluminium conductor for 1.1 KV. to be laid on wall with necessary clamps or in existing trench / pipe of following size of cables (A) 4 core 16 Sq. mm
50		Providing and erecting XLPE (IS:7098)(I)-88 ISI armoured cable multistrand Aluminium conductor for 1.1 KV. to be laid on wall with necessary clamps or in existing trench / pipe of following size of cables (B) 4 core 25 Sq. mm
51	DSR-E & M 4-1	Supplying and installing following size of perforated painted with powder coating M.S. cable trays with perforation not more than 17.5% , in convenient sections , joined with connectors, suspended from the ceiling with M.S. suspenders including bolts & nuts , painting suspenders etc. as required.
	DSR-E & M 4-1-2	150 mm width x 50 mm depth x 1.6 mm thickness
	DSR-E & M 4-1-4	300 mm width x 50 mm depth x 1.6 mm thickness
52	DSR-E & M 7-3	Laying of one number of PVC insulated and PVC sheathed / XLPE Power cable of 1.1 kv grade of folloeing size direct in ground including excavation, refilling the trench etc as required, but excluding sand cushioning and protective covering.
	DSR-E & M 7-3-1	Upto 35 sq. mm
	DSR-E & M 7-3-2	Above 35 sq. mm and upto 95 sq. mm
	DSR-E & M 7-3-4	Above 185 sq. mm and upto 400 sq. mm
53	DSR-E & M 7-4	Laying of one number additional PVC insulated and PVC sheathed / XLPE Power cable of 1.1 kv grade of following size direct in ground in the same trench in one tier horizontal formation including excavation, refilling the trench etc as required, but excluding sand cushioning and protective covering.
	DSR-E & M 7-4-1	Upto 35 sq. mm
	DSR-E & M 7-4-2	Above 35 sq. mm and upto 95 sq. mm
	DSR-E & M 7-4-4	Above 185 sq. mm and upto 400 sq. mm
54	DSR-E & M 7-6	Laying of one number PVC insulated and PVC sheathed / XLPE power cable of 1.1 KV grade of following size in the existing masonry open duct as required.
	DSR-E & M 7-6-1	Upto 35 sq. mm
	DSR-E & M 7-6-2	Above 35 sq. mm and upto 95 sq. mm
	DSR-E & M 7-6-3	Above 95 sq. mm and upto 185 sq. mm
	DSR-E & M 7-6-4	Above 185 sq. mm and upto 400 sq. mm
55	DSR-E & M 7-7	Laying and fixing of one number PVC insulated and PVC sheathed / XLPE



		power cable of 1.1 KV grade of following size on wall surface as required.
	DSR-E & M 7-7-1	Upto 35 sq. mm (clamped with 1mm thick saddle)
56	DSR-E & M 7-8	Laying and fixing of one number PVC insulated and PVC sheathed / XLPE power cable of 1.1 KV grade of following size on cable tray as required.
	DSR-E & M 7-8-1	Upto 35 sq. mm (clamped with 1mm thick saddle)
	DSR-E & M 7-8-2	Above 35 sq. mm and upto 95 sq. mm (clamped with 25 x 3 mm MS flat clamp)
	DSR-E & M 7-8-4	Above 185 sq. mm and upto 400 sq. mm (clamped with 40 x 3 mm MS flat clamp)
57	DSR-E & M 7-10	Supplying and fixing cable route marker with 10 cm X 10 cm X 5 mm thick G.I. plate with inscription there on, bolted /welded to 35 mm X 35 mm X 6 mm angle iron, 60 cm long and fixing the same in ground as required.
58	DSR-E & M 9-1	Supplying and making end termination with brass compression gland and alluminium lugs for folloeing size of PVC insulated and PVC sheathed / XLPE aluminium conductor cable of 1.1kv grade as required.
	DSR-E & M 9-1-22	3½ X 50 sq. mm (35mm)
	DSR-E & M 9-1-27	3½ X 185 sq. mm (57mm)
	DSR-E & M 9-1-29	3½ X 240 sq. mm (62mm)
	DSR-E & M 9-1-32	4 X 10 sq. mm (25mm)
	DSR-E & M 9-1-33	4 X 16 sq. mm (28mm)
	DSR-E & M 9-1-34	4 X 25 sq. mm (28mm)
59	DSR-E & M 14-15	Supplying and laying of following size DWC HDPE pipe ISI marked along with all accessories like socket, bend, couplers etc. conforming to IS 14930, Part II complete with fitting and cutting, jointing etc. in the existing trench, complete as required.
	DSR-E & M 14-15-1	63 mm dia (OD-63 mm & ID-51 mm nominal)
	DSR-E & M 14-15-3	120 mm dia (OD-120 mm & ID-103 mm nominal)
SCHEDULE -3 -LED FITTINGS AND FANS		
60		Supplying and erecting LED indoor fittings with LEDs of wattage 0.2 Watt to 0.5 Watt assembled on single MCPCB, with housing used as a heat sink shall be made of thick sheet Steel conforming to IS: 513/CRCA/aluminium pressure die cast powder coated and high U.V. & corrosion resistance with diffuser housed in aluminium casted body with company mark/name 160V to 270V, Power Factor more than 0.9, THD < 15 %, CCT 3000 K to 6500K, Luminaire efficacy> 100 lumens/watt , LED driver efficiency > 85 % (fitting required LM-79 & LM-80 Certificates)(NOTE: Below description have shown ranges of Wattage capacity of LED fittings.The Engineer incharge may select any wattage capacity between the ranges shown.) (A) Square/ Circular shaped Surface/Recessed Mount Downlight with provision for spring loaded mounting clips complete.IP20 (iii) 16-20 watts, Surge-2 KV Cat.III
61		Supplying and erecting LED indoor fittings with LEDs of wattage 0.2 Watt to 0.5 Watt assembled on single MCPCB, with housing used as a heat sink shall be made of thick sheet Steel conforming to IS: 513/CRCA/ aluminium die cast powder coated and high U.V. & corrosion resistance with diffuser with company mark/name 160V to 270V, Power Factor more than 0.9, THD < 15%, CCT 3000 K to 6500K, Luminaire efficacy> 100 lumens/watt ,LED LED driver efficiency > 85 % (fitting required LM-79 & LM-80 Certificates)(NOTE: Below description have shown ranges of Wattage



		capacity of LED fittings.The Engineer incharge may select any wattage capacity between the ranges shown.)
		(A) Tube Light with integral driver (i) 5-10 Watts, Surge-2 KV, IP-20, conventional 1 to 2 feet Cat.III
		(A) Tube Light with integral driver (iii) 18-20 Watts, Surge - 2KV,IP-20, conventional 4 feet Cat.III
62		Supplying decorative table lamp with LED lamps of suitable nos equivalent of 11 W light with flexible copper wire cord with plug top. Cat.III
63		Supplying and erecting led lamps with following wattage capacity of 220 to 240 voltage, minimum 15000 burning hours life, 500 V in built-surge protection,Polycarbonate diffuser, mounting suitable for E14 / E27 / B22 lamp holders, pf >= 0.5 (A) LED Lamps integral type, with PC diffuser suitable LAMP holder (ii) 5 to 8 watts Cat.III
64		Supplying and erecting LED indoor fittings with LEDs of wattage 0.2 Watt to 0.5 Watt assembled on single MCPCB, with housing used as a heat sink shall be made of thick sheet Steel conforming to IS: 513/CRCA/aluminium pressure die cast powder coated and high U.V. & corrosion resistance with diffuser housed in aluminium casted body with company mark/name 160V to 270V,Power Factor more than 0.9, THD < 15 %,CCT 3000 K to 6500K, Luminaire efficacy> 100 lumens/watt ,LED driver efficiency > 85 %(fitting required LM-79 & LM-80 Certificates)(NOTE: Below description have shown ranges of Wattage capacity of LED fittings.The Engineer incharge may select any wattage capacity between the ranges shown.) (I) Adjustable spot light with COB led having aluminium reflector of following wattage (iv) 30 Watts Cat.III
65		Supply, Installation, Testing and Commissioning of 1200 mm sweep, BEE 5 star rated, ceiling fan with Brush Less Direct Current (BLDC) Motor, class of insulation: B, 3 nos. blades, 30 cm long down rod, 2 nos. canopies, shackle kit, safety rope, copper winding, Power Factor not less than 0.9, Service Value (CM/M/W) minimum 6.00, Air delivery minimum 210 Cum/Min , 350 RPM (tolerance as per IS : 374-2019), THD less than 10%, remote or electronic regulator unit for speed control and all remaining accessories including safety pin, nut bolts, washers, temperature rise=75 degree C (max.), insulation resistance more than 2 mega ohm, suitable for 230 V, 50 Hz, single phase AC Supply, earthing etc. complete as required.
66		Supplying & erecting approved make low noise decorative exhaust fan having square frame ABS body with inbuilt lowers & square frame. 200mm with 1350RPM Cat.II
67	DSR E&M -1-50	Installation of exhaust fan in the existing opening, including making good the damage, connection, testing, commissioning etc. as required.
	DSR E&M -1-50-1	Upto 450 mm sweep
SCHEDULE -4 -VRV HVAC SYSTEM		
68		Supply Installation, Testing & Commissioning of modular type Variable Refrigerant Volume air cooled Outdoor units suitable for cooling and heating, having all hermetically sealed inverter type Scroll Compressor(s), microprocessor based Controller, top discharge type condensing unit(s), with R410 A Refrigerant (Or Eco Friendly Green Gas if any), vibration isolators, with suitable foundation, MS Stand for Unit with necessary paint etc. complete as required. The unit shall deliver the rated capacity at AHRI Conditions and work even at 50°C ambient temperature without tripping. The unit shall be suitable to work on 400V +/- 10%, 3 Phase, 50Hz AC power supply. The unit shall be filled with first charge of the refrigerant



		and ready for use as required. The COP at AHRI conditions shall not be less than 3.1 and IEER not less than 6.5. (Design should be got approval before execution from engineer in charge)
69		Supply, installation, testing and commissioning of following minimum capacity 4-way/2 way/radial flow as per approval VRV Cassette Type Indoor ceiling mounted unit equipped with synthetic washable media pre-filter, fan section with low noise fan/dynamically balanced blower, multispeed motor, coil section with DX Copper coil, electronic expansion valve, outer cabinet, drain pump, grill, necessary supports, vibration isolation, cord less remote control etc., suitable for operation on single phase 230 V ± 10%, 50Hz AC supply, max noise level 60dB @ 400 cfm per TR(minimum) complete, as required. The unit shall have automatic force shut down provision in case of fire on receiving signal from BMS System. The cooling capacity of indoor unit will be at air inlet conditions of 27 Degree C DB and 19 Degree C WB temperature fresh air provision compatible for Remote Operation System
		(E) 2 TR
		(J) 4 TR
70		Supply, installation, testing and commissioning of following minimum capacity VRV High wall type Indoor unit equipped with washable synthetic media pre-filter, fan section with noise level maximum 60 dB @min 400 cfm /dynamically balanced blower, multispeed motor, coil section with DX copper coil, electronic expansion valve, outer cabinet, cord less remote control, drain pan, necessary accessories etc., suitable for operation on 230 V ± 10%, 50 Hz, single phase AC supply, complete as required. The unit shall have automatic force shut down provision in case of fire on receiving signal from BMS System. The cooling capacity of indoor unit will be at air inlet conditions of 27 Degree C DB and 19 Degree C WB temperature.
		(A) 0.8 TR
		(D) 1.65 TR
71		Supply, Installation, testing and commissioning including vaccumiazation and Nitrogen testing of following nominal sizes of soft/hard drawn copper refrigerant piping for VRV system, complete with fittings, with suitable adjustable ring type hanger supports, jointing/brazing including accessories, insulated with XPLE Class-0 tubular insulation/with Class-0 closed cell elastometric nitrile rubber tubular sleeves sections of specified thickness as given below for Suction and Liquid lines, all accessories as per specifications etc with necessary refrigerant joint as required :
		(A) 6.4 mm dia (OD) (Soft drawn) with tube thickness 1.2 mm with 19 mm thick insulation
		(B) 9.5 mm dia (OD) (Soft drawn) with tube thickness 1.2 mm with 19 mm thick insulation
		(C.) 12.7 mm dia (OD) (Soft drawn) with tube thickness 1.2 mm with 19 mm thick insulation
		(D) 15.86 mm dia (OD) (Soft drawn) with tube thickness 1.2 mm with 19 mm thick insulation
		(E) 19 mm dia (OD) (Hard drawn) with tube thickness 1.2 mm with 19 mm thick insulation
		(F) 22.2 mm dia (OD) (Hard drawn) with tube thickness 1.2 mm with 19 mm thick insulation
		(G) 25.4 mm dia (OD) (Hard drawn) with tube thickness 1.2 mm with 19 mm thick insulation



		(H) 28.58 mm dia (OD) (Hard drawn) with tube thickness 1.2 mm with 19 mm thick insulation
		(I) 31.8 mm dia (OD) (Hard drawn) with tube thickness 1.62 mm with 19 mm thick insulation
		(J) 34.9 mm dia (OD) (Hard drawn) with tube thickness 1.62 mm with 19 mm thick insulation
		(K) 38.1 mm dia (OD) (Hard drawn) with tube thickness 1.62 mm with 19 mm thick insulation
		(L) 41.27 mm dia (OD) (Hard drawn) with tube thickness 1.62 mm with 19 mm thick insulation
72		Supply installation testing commissioning Shielded Shielded Control Cables for VRV System with necessary ISI mark Medium class rigid PVC pipes with necessary accessories with termination in machine and control equipments.. (A) 2C X 1.5 Sq mm Shielded Armoured
73		Supply, Installation, Testing and Commissioning of Central wired Remote Control System
74		Rigid UPVC drain pipe of 10 Kg/cm2. rating with 9 mm thick.nitrile rubber insulation.
		(B) 40 mm dia.
		(D) 25 mm dia.
		(E) 19 mm dia.
75		Carry out RCC Core cutting- up to 100 mm dia./300mm thick Wall/beam/slab with providing PVC pipe of 3 mm thick inside and necessary finishing on both ends of wall .
<u>SCHEDULE -5 -WATER COOLER 150 LTR & RO , GYSER</u>		
76		Providing & erecting water cooler having storage capacity 150 Ltr. & cooling capacity 150 Ltr.per hour @ an ambient temp of 45° C. The outlet temp. of the water should drop by 15°C within a hour, The water cooler should be comprising of hermetically sealed compressor, fan motor, condensing unit, water tank surrounded by evaporating, coil, thermostats, relay etc.complete with necessary inlet & outlet connection. The body of water cooler will be made from Stainless Steel.
77		Supplying & erecting reverse osmosis (RO) water purification system with M.S. powder coated pedestal frame, prefilter housing carbon filter suitable buster DC pump, auto low & high pressure switches with following size of LPH capacity & erected as directed [D] 100 LPH with 1 phase / 3 phase Raw water pump of 500LPH @ 2.5kg/cm2 - (1No - Kirloskar /CRI/Lubi), Dual media filter 10"x54" - (1 No), Micron cartridge filter 20" x 2.5" (1No), High pressure pump 500LPH @ 10kg/cm2 - (1No - Shimge /CRI /Lubi), RO Membrane housing with RO membrane of 40*40 - (1No), RO pressure tube 4" x 1E - (1No), 0 - 1200LPH Rotameter -(2 Nos), with Recovery Rate 50%.
77-A		Supplying and erecting horizontal / vertical mounting type storage water heater with copper container housed in M.S./S.S./ABS body insulated with glass wool/puff complete with heating elements,adjustable thermostats 300C to 850C, indicating lamp, safety valve, fusible plug, etc.complete erected with coach bolts, nuts. washers & cementation (A) 10 Ltr. with 3 KW. heating element Premium Category
<u>SCHEDULE -6 -CABLE AND ITS LAYING</u>		
78		Laying of One number PVC insulated and PVC sheathed / XLPE power



		cable of 11 KV grade of following size direct in ground including excavation , sand cushioning, protective covering and refilling the trench etc as required.
		Up to 120 sq. mm.
79		Laying of One number additional PVC insulated and PVC sheathed / XLPE power cable of 11 KV grade of following size direct in ground in the same trench in one tier horizontal formation including excavation , sand cushioning, protective covering and refilling the trench etc as required.
		Up to 120 sq. mm.
80	DSR- E&M 8.4	Laying of One number PVC insulated and PVC sheathed / XLPE power cable of 11 KV grade of following size in the existing masonry open duct as required.
	DSR- E&M 8.4.1	Up to 120 sq. mm.
81		Supplying and making indoor cable end termination with heat shrinkable jointing kit complete with all accessories including lugs suitable for following size of 3 core , XLPE aluminium conductor cable of 11 grade as required :
		120 sq. mm.
82		Supplying and erecting Right angle / straight boot made from Synthetic rubber and suitable for covering of cable up to 400 sq mm & should be installed directly on DIN Bushing on HT VCB or Transformer without bending of boot.
		SCHEDULE -7-DG SET 500 KVA
83		Supplying and erecting, commissioning and testing of Diesel Generating set confirming to IS: 4722:1968 & BS:5514 having continuous rating, 3 phase, 415 volts, 50 cycles A.C. supply comprising of a totally enclosed air/water cooled diesel engine with multi-cylinders developing suitable BHP not less than following capacity at 1500 RPM with 10% overload for one hour in 24 hours with standard accessories like fly wheel, lubricating oil cooler, "A" class governor, heavy duty fuel wheel and lubricating oil filter, oil bath air filler, lubricating oil pressure gauge, end exhaust manifold, standard set of tools with adjustable spanners, screw drivers, cylinder head to cover, joint cylinder head to exhaust, element lube oil filter, 12 / 24 volts electric starting equipment complete with standard heavy duty battery, dynamo, cut-outs, ammeter, necessary wiring, pressure gauge, starter etc and heavy duty Residential type exhaust silencer and vertical hot air duct both logged with asbestos rope, save oil trays, exhaust piping of required length, standard wall/floor mounted fuel with level indicator and piping and drip proof alternator, self excited, self regulated, screen protected, with excitation system, capable of delivering the rated system output at 415 volts, 3 phase, 0.8 PF, 50 Hz, 4 wire, running at 1500 RPM, conforming to IS-4722- 1968 with voltage regulation +/- 5% of rated voltage from no load to full load. Both the engine and alternator fitted on a common fabricated steel base plate with antivibration mounting engine and alternator both connected to each other by flexible flange coupling and with floor/wall mounted control panel box comprising of voltmeter ammeter, selector switches, ACB / MCCB / MCB of adequate capacity,
		indicator lamps duly wired with HRC fuses. The alternator & control panel shall be connected with provided suitable capacity armoured cable and complete with Acoustic enclosure (canopy) made out of 16 SWG CRCA Sheet, sound absorbing material Rockwool of 64 density & 100 mm thick



		conforming to IS:8183 / PU Foam of 40 Density - at least 40 mm. The resin bonded rockwool covered from inside the canopy by perforated sheet with 3/4 mm holes, sound level not more than 75 dB at a distance of 1 mtr, as per PVCT norms. Erection, commissioning and satisfactory testing as per requirement with first filling of fuel, oil, etc. with guarantee / Warrantee of complete system for Two years. & with obtaining all necessary certificate from Electrical Inspector. The Capacity and Ratings of DG sets are as below . (V) Continuous rating of 500 KVA ,BHP not less than 600 BHP
84		Providing & erecting approved make ATS panel suitable for following size of 3 phase, 415 V., 50 cycles, A.C. diesel generating set complete of scope as detailed below: 1) Power module: Motorised Changeover switch with ATS controller, Auxiliary contactor with NO & NC contacts with Automatic Battery Charger, indicating lamps for Generator ON, Mains ON, Load and suitable control terminals and power terminals with neutral earthing studs. (H) ATS Panel for 320 KVA/ 380 / 400 /500 KVA3 ph DG Set
SCHEDULE -8-LIGHTNING ARRESTER		
85		SITC of Vertical Air Termination Solid aluminium with Base- 10 mm dia and 1000 mm long. Air Termination Base tested for conditioning, Ageing Test & Lightning impulse current withstand test: 100 kA of 10/350µs waveform in an accredited Third party laboratory as per 6.3 & 6.4 of IEC 62561-1 2017 protocol with MAST 34mm dia 3000 mm long- Cold Galvanized
86		SITC of 8 mm dia solid Aluminium Conductor for roof top mesh grid and tested as per IEC 62561- 2 conducted in the Govt. accredited thirty party laboratory to meet the requirement of IS/IEC 62305 with Required Accessories - Aluminium Holding clamp at every 1 mtr distance, Aluminium/SS cross splicer at every crossing of Alu. conductor, Expansion piece with connectors at every 20 mtr distance, Aluminium straight Splicer to connect conductors. All Accessories should be tested as per IEC 62561-1 2018 Cl. 6.3 for conditioning & Ageing Test & 6.4 for Lightning impulse current withstand test: 100 kA of 10/350µs waveform(Ageing & Electrical test) conducted in a sequence manner & tested in the Govt. accredited Third party laboratory to meet the requirements of IS/IEC 6230
87		SITC of Galvanized Steel Flat 25x6 mm thickness from earth electrode directly in ground as required. Zinc coating: 500 g/m square (Approx:70 micron coating) tested and used exclusively for lightning protection earthing system and ring equipotential bonding.
88		SITC of 14.2 mm dia 3 mtr long Earth electrode of High tensile steel electrode with 250 micron copper bonding & 1 bag of Carbon fill Based environment friendly backfill tested as per IEC 62561-7 in NABL accredited Laboratory and suitable stainless Steel double sided clamp. Eco Friendly rust proof heavy duty weather proof Polyethylene Earth Pit Chamber with following dimensions :254 mm dia (top), 330 mm dia (bottom) & 260 mm (height).
SCHEDULE -9-LIFT G+4		
89		[1] GEAR LESS LIFT DRIVE (MRL) comprising of High Starting torque Lift 3 phase 440 V A. C. Permanent Magnet Synchronous motor of proper rating with high efficiency shall be used.[2] Micro processor based / PLC, ACVVVF, vector control drive with encoder feedback closed loop system shall be used for lift car and door operation which shall be full collective selective operation hall call demand response, UP/DOWN hall stops, Main,



		Up/ Down Contactor with overload and phase reversal relay and safety controls.
		[3] Car with M S platform with bracings of adequate size and to sustain the impact load cabin + passenger with safety factor of fire for steel and side panels of Stainless steel of sheet of grade 304 duty. Car ceiling will be S.S. finishes with aesthetic appearance with LED ceiling lights. Car flooring shall be of anti skid PVC with choice of colour of engineer in charge. Car doors shall be of stainless steel grade 304, hairline finish with centre opening / telescopic automatic doors. Car panel will also be S.S. 304 finished with emergency stop device, mechanical door safety device, facility of auto/ attended mode. All car panel buttons and all floor switches must be with brail language as per lift act.
		[4] All landing doors must be fire rated for 2 hour shall be fully automatic centre opening/ telescopic opening made of hairline finish steel grade of 304 with key holes and infrared curtains with Unlocking facility from outside [5] Appropriate battery operated emergency light in the car along with alarm switch shall be provided. Also, Emergency Light & Fan should start immediately without any Time Delay as soon as power fails. [6] Digital scrolling indicator system for up-down arrow along with floor position indicator shall be provided inside the car and at all floors. [7] Full height infra red curtain with multiple cross / crossing light beams shall be provided.[8] Automatic Rescue Device (ARD) shall be provided accordingly of passenger capacity with Manual Rescue Operation (Manual Cranking Facility). [9] Audio visual indication in the lift car showing over loading shall be provided such that doors kept open till excess load is removed.
		[10] Spring buffers/PU Buffers shall be provided.[11] Car fan as per passenger capacity with automatic sleep timer shall be provided.[12] Voice annunciator with suitable music shall be provided in lift car. [13] Self diagnostics system for operational and safety parameters shall be provided in control panel.[14] Mechanical over speed governor with governor calibration as per actual site parameters and submission of calibration certificate submission, door key holes in the floor doors, fITEMan switch shall be provided.[15] Lift machine hoisting arrangement in the lift machine room and monkey ladder for lift pit should be provided by the lift agency, along with the other steel structure works, foundations for the machine etc...[16] In the hoist way fascia plate shall be provided without any extra cost, where ever required as / if directed by engineer in charge.
		[17] Permanent wiring with necessary safety devices like RCCB in all circuit, Over Voltage Under Voltage protection and THD eliminator in circuit for lift machine room and lift well with proper numbers of light points, with fixtures, exhaust fan and plug points shall be provided by the agency. Only 3 phase Power Supply shall be made available by department in lift machine room. Necessary Earthing as per Lift Act/Rules shall be arranged by Lift Agency. [18] Any civil/ electrical works for additional and alteration in lift shaft and machine room related to erection of lift shall be made by lift agency without any extra cost. (granite/marble fixing around all landing door openings are not in lift agency's scope.) [19] Agency has to provide all working drawings and documents and



		liaison services for obtaining all necessary permission from lift inspector and other authorities. [20] acrylic transparent licence/display A4 size holder in lift car
		[20A] As per statutory requirement of Govt. Of Gujarat lift & escalator act 2000, lift agency has to provide 1. Car top safety barricade 2. Push & talk communication system. 3. FITEMan's switch operation at Ground Floor. 4. carrying out third party lift inspection during/after lift erection and provide report by third party authorized by concern licensing authority 5. agency has to provide third party insurance upto completion of free maintenance period and submit the document for the same.
		[21] Car Panel Operating Buttons with floor position indicator/buttons must be of Auto Glow type clearly visible when view from inside cabin. [22] For Physically Handicapped person Full Length Handrails of hairline finish steel grade of 304 should be provided at appropriate height on the Rear & Side Wall Panels in Lift Car.
		(B) SPECIAL FEATURES DESCRIPTION OF LIFTS for PREMIUM category 1. Advanced control system dual 64 bit embedded microprocessor with CANBUS Serial Communication mode including Regenerative power efficient operation, on site programming facility, Anti nuisance, Pte-opening, BMS/RMS with necessary online real time monitoring system having necessary connectivity for remote monitoring & other suitable supporting hardware & software devices to fulfil the purpose. 2. Floor Indication LCD Display with call registration & brail mark with arrival gong and hall lantern & TFT Screen in the car with MP3 Voice Announcer. 3. CAR Panel should be Scratch resistive SS Moonrock finish / Hair Line / Honeycomb for car and all Doors, All landing doors must have fire rating up to 2 hours and car door must have multi-level crisscross beam door protection. 4. To & fro communication system & wiring (i.e. car , control room & guard room) and Each elevator are equipped with remote monitoring system. agency has to provide mobile app and user id and password for monitoring
		4/5/6 Passengers, Ground plus 3 upper floors with Rated Speed of 1.0 m/sec., (C) With General PLUS ADDITIONAL SPECIAL FEATURES attached herewith. Prem. Cat.
		15/16 Passengers, Ground plus 3 upper floor with Rated Speed of 1.0 m/sec., (C) With General PLUS ADDITIONAL SPECIAL FEATURES attached herewith. Prem. Cat.
SCHEDULE -10-SOLAR WATER HEATER		
90		Supplying, installing, testing & commissioning of SOLAR WATER heating system as per prevailing IS code comprising of Solar flat locket collector, stainless steel hot water storage isolated tank with S.S. heat exchanger, absorber made of copper sheet & copper tube of following capacity in liter / day (LPD) with "B" size aluminium box collector with appropriate capacity electrical backup arrangement (Excluding inlet & outlet pipe lines)
		(E) Capacity of 1000 LPD
91		Supplying & erecting resin bonded flap rock wool / glass wool with conductivity valve 1.67 sq.mm per watt & to with stand the temp. to 100 degree centigrade C thickness 50mm with G I pipe of following size dia "B" class as per IS:1239. The plastic sheet to be used as covering of glass wool. Al. cladding besides other materials like chicken mesh, 26 G Al. Sheet shall



		be used for cladding the insulation pipe.
		(A) for 20 mm dia pipe
		(D) for 40 mm dia pipe
92		Supplying & erecting 12mm composite pipe manufactured from polythene material with destructed thermal expansion of 25 10-6 / degree kelvin (low expansion Co-efficient), resistant to freezing thermal conductivity 0.43 watt / (m degree kelvin) UV resistant suitable for continuous operating temperature of 95 degree centigrade & rated pressure of 6.9 kg / sq.cms at 850 degree centigrade. The kitec pipe shall have chemical composition prepared as per ASTM F 1282-02 specifications (Pressure rating of 13.8 kg per sq.cms. & 11 KG per sq.cms at 60 degree) The pipe shall be duly jointed by comprising crimp fitted with internal as well as external end sealing arrangement.
		(B) For 16 mm pipe
		(C) For 20 mm pipe
SCHEDULE -11-ROOF TOP GRID SOLAR POWER		
93		Supply, Installation, Testing & Commissioning of following size of Grid Tied Solar Power Plant with Solar Panels (ALMM approved): Frame Material : Anodized Aluminum alloy Frame With Twin Wall Profile, Front Cover : High Transmission Low-Iron Tempered Glass (AR Coated), High efficiency and positive power tolerance Pmax: 0/+5, Module Efficiency should be approx. 18%-21%, Normal operating temperature 45°C, Junction Box with Waterproof IP67 & MC4 Compatible and Enclosed with Bypass diodes, 100% Electroluminescence test to ensure error free Modules, Thep. temp. coefficient of the PV module shall equal or better than -0.45%/degree C. Solar PV modules of minimum fill factor 75% to be used. Unit Production:- 4 to 5 Unit /kw /day (Actual)(1Year Avg) With 10 year Product warranty and 25 year Linear Power Warranty., Solar Inverter: MPPT Range: 80-1000 V, Max efficiency: 97.5% - 98.9%, O/p Frequency: 50/60Hz, Operating Altitude (m) ≤4000, O/p Power Factor: ~1, O/P THDi: <3%, Operating Temperature Range: -25~60°C, Anti-islanding Protection:
		Integrated, Input Reverse Polarity Protection Integrated, Insulation Resistor Detection Integrated, Residual Current Monitoring Unit Integrated, Output Over Current Protection Integrated, Output Short Circuit Protection Integrated, Output Over Voltage Protection Integrated, Protection Degree: IP65, User Interface LCD & APP,Datalogger & Communication: GPRS / Wi-Fi, Module Mounting Structure: Seamless Box Pipe / 'C' Channel of suitable size for rooftop solar installations with good stability agaist wind & weight load., Hot Dipped Galvanized steel coils. suitable arrangement for base plate for foundation , solar panel mounting, the structure should be suitable for carry the load of solar panel,wiring, sprinkler system etc. with necessary foundation work/wall mount, j bolt, anchor fastner etc. the nut bolt used for installtion of stucture should be (SS 304) quality. and Balane of System with necessary Swithgears (Suitabel size and protection of ACDB & DCDB), inter connecting wiring, earthing system, lightning arrester system, all liasoning work with various gov. dipartment like state nodal agency,DISCOM & CEIG is included in agency scope
		(Excluding Application fees, Solar connectivity Charges, Meter connectivity Charges, Meter testing Charges.) (D) Grid Tied Solar Power



	System: 26 - 50 kW (3 - phase)
	SCHEDULE -1 - POINT WIRING (MODULAR) RS.
	SCHEDULE -2 - MEDIUM VOLTAGE DISTRIBUTION (SWITCHES,PANELS AND CABLES) RS.
	SCHEDULE -3 -LED FITTINGS AND FANS RS.
	SCHEDULE -4 -VRV HVAC SYSTEM RS.
	SCHEDULE -5 -WATER COOLER 150 LTR & RO , GYSER RS.
	SCHEDULE -6 -CABLE AND ITS LAYING RS.
	SCHEDULE -7-DG SET 500 KVA RS.
	SCHEDULE -8-LIGHTNING ARRESTER RS.
	SCHEDULE -9-LIFT G+4 RS.
	SCHEDULE -10-SOLAR WATER HEATER RS.
	SCHEDULE -11-ROOF TOP GRID SOLAR POWER RS.

S&T Works

S. No.	Remarks	Item Description
1	Item No. 15005 of NCR SOR, NCR/Policy/SOR dt. 25.05.2021	Supply of armoured, 24 Fibre, Optical Fibre cable, as per RDSO spec.No. IRS: TC:55/2006 Rev-1 (Amndt. 1.1, 2.0 and 3.0) or latest
2	Item No. 15036 of NCR SOR, NCR/Policy/SOR dt. 25.05.2021	Supply of permanently lubricated HDPE duct, 40 mm outer dia, as per RDSO spec. No. RDSO/SPN/TC/45/2013 Rev.2 Amndt.2 or latest, along with all accessories like end caps, collars, bends, couplers etc.
3	Item No. 12005 of NCR SOR, NCR/Policy/SOR dt. 25.05.2021	Horizontal direction drilling (HDD)/Trenchless digging/machine drilling without damage to surface road /track for laying/insertion of HDPE/GI/DWC pipe. The bore shall be done at the depth of minimum 1400 mm from the ground level. The ground level shall be considered ignoring the bank height of the bank of the road. Note:- DWC/HDPE/GI Pipe Supply is not covered under this item. Contactor shall provide all material required for work and adequate nos. of labours for proper laying of cables into the bore. Cable shall be laid cautiously so that it should not get damage due to rough handling & pressure on cable. Payment of boring shall be made only after DWC/HDPE/GI pipe is laid in the bore."
4	Item No. 15034 of NCR SOR, NCR/Policy/SOR dt. 25.05.2021	Blowing/drawing of OFC cable in the HDPE pipe duct and protective work already provided in the trench. The cable shall be laid only after the successful completion of the DIT (Duct Integrity test). The DIT should be certified by the Railway engineer at site. All the equipments/machinery required shall be arranged by the contractor.
5	Item No. 15030 of NCR SOR, NCR/Policy/SOR dt. 25.05.2021	Splicing of 24 core optic fibre cable and making the splicing joint with contractor's own machine and tools. Joint should be prepared in such a way that the



		top of the enclosure should be at a depth of minimum 1.2 meter and the enclosure should be covered with soft soil and bricks. Splice loss of each fibre should be less than 0.05 dB.
6	Item No. 12014 of NCR SOR, NCR/Policy/SOR dt. 25.05.2021	Cutting of all types of platforms/road crossing and trenching and excavation to a width and depth of 300 mm x 300 mm, laying of DWC/HDPE/GI pipe in the trench and refilling and concreting it afterwards as per original condition. In hard rocky ground area, cables will be laid normally on layer of soft earth of 0.05 meter thickness previously deposited at bottom of the trench. The cutting to be filled and finished with cement/concrete, as per the RDSO drawing No. SDO/Cable laying/008, issued vide RDSO document No. RDSO/SI/G/2010 Version 1.1 dated 04.02.2014 or latest.
7	Item No. 15058 of NCR SOR, NCR/Policy/SOR dt. 25.05.2021	Supply of Optical Time Domain Reflectometer (OTDR), operating at 1550nm and 1310 nm for working on single mode optical fiber as per TEC spec. TEC/GR/TX/OTD - 001/05/SEP-19 or latest, of reputed make like Yokogawa/JDSU/Viavi or similar. Consignee shall approve the supply only after successful demonstration at site.
8	Item No. 14006 of NCR SOR, NCR/Policy/SOR dt. 25.05.2021	Supply of Digital Clamp Earth tester/meter with memory storage facility, make Motwane/Meco/Fluke or better.
9	Item No. 12017 of NCR SOR, NCR/Policy/SOR dt. 25.05.2021	Supply of Cable fault locator for metallic S&T cables of reputed make Aplab/Stanley/3M etc. Item to be supplied after successful demonstration and approval of Railways.
10		Supply of cable route tracer, similar model no.:2273 m of Dynatel make or similar. (Contractor has to arrange field trail test at DFCCIL nominated site & OEM test certificate to be produced)
11		Supply of Electronic Cable Route Marker 3M make or similar, Model: RFID, (1421xR-ID) or stanley SML 1014 and installation, cable detection of capacity to detect the cable upto 5 feet depth.
12	Item No. 38654 of RVNL's SOR 2018/S&T/Updation/BOQ dt. 31.12.2018	Supply of PIJF Cable of SIZE : 20 PairX0.63mm
13	Item No. 38653 of RVNL's SOR 2018/S&T/Updation/BOQ dt. 31.12.2018	Supply of PIJF Cable of SIZE : 10 PairX0.63mm
14	Item No. 15019 of NCR SOR, NCR/Policy/SOR dt. 25.05.2021	Supply of 24 fiber optical fiber cable straight joint enclosure (SJC) complete with all accessories along with enclosures with heat shrinkable splice protection sleeve as per RDSO spec. RDSO/SPN/TC68/2014 Revision 1.0, Amndt. 1.0 or latest. Splice losses in no

		case should be more than 0.1 dB.
15	Item No. 15041 of NCR SOR, NCR/Policy/SOR dt. 25.05.2021	Supply and Installation of Fibre distribution management system as per RDSO spec.No. RDSO/SPN/TC/37/2020 Revision 4.0 or latest. It includes the supply of 19"42U rack with mounting arrangement. It will also include all installation material, splicing, termination, testing of all 2 x 24 fi bres.
16	Item no. 15022, of NCR SOR, NCR/Policy/SOR dt. 25.05.2021	Supply of 25 Watt VHF synthesised transreceiver set, synthesised in frequency band 136 MHz to 174 MHz (full band), with DTMF microphone and cords, with GP antenna, 30 m of feeder cable and suitable BNC connectors, with 3m of power cord and 12V/13.5V 10Amp/15Amp power supply suitable for 25W VHF set, as per RDSO spec.No. RDSO/SPN/TC/107/2018, Rev. 0.0 Amndt 1 or latest.
17	Item no. 15023, of NCR SOR, NCR/Policy/SOR dt. 25.05.2021	Installation, testing and commissioning of 25 Watt VHF synthesised transreceiver set, at Railway station, including all blacksmith and masonry work as per Railway Engineer at site. Required GI pipe shall be supplied by the contractor in size 6 meter/1500 mm length, 50 mm/40 mm dia as per requirement at site.
18		Supply, Installation, Testing and commissioning of Full HD Fixed Bullet type IP colour camera along with housing and mount and all accessories required for installation purposes along with 128 GB SD/SDHC/SDXC Memory card or higher as per RDSO Spec No. RDSO Spec No. RDSO/SPN/TC/65/2021 Rev 6.0 or Latest.
19		Supply, installation, testing and commissioning of Network video Recorder with 64 CH with HDMI, ON VIP [Minimum of 16 TB usable space or higher, scalable upto 64 TB] as per RDSO Spec No. RDSO/SPN/TC/65/2019 Rev 5.0 or latest.
20		Supply and Installation of Full HD or higher (4K) Large format Display Monitor Industrial (55" or Larger) with all required cables,connectors & remote i.e. HDMI cable, power cable etc. as per RDSO Spec No. RDSO Spec No. RDSO/SPN/TC/65/2021 Rev 6.0 or Latest..
21		Supply of STP CAT-6 cable as per RDSO Spec No. RDSO Spec No. RDSO/SPN/TC/65/2021 Rev 6.0 or Latest.
22		Laying of STP CAT-6, Power cable as supplied as per instruction of site incharge
23		Supply of power cable 3 core, 2.5 sq mm, multi strand (36/0.3 mm dia) cable as per IS 694:1990 reaffirmed 1995 or latest suitable for Railway electrification area, shall be of reputed make like Havells, Delton, LAPP, Finolex, or superior.



24		Preparation of drawing mentioning the location of cameras wiring diadrams showing clearly the STP CAT-6, OFC, Power cable OTDR test reports of OFC cable, earth resistance test reports, technical details of servers, switches, work stations, , storages 35 and submission in soft as well 3 sets in printed to the consignee. A diagram of camera location either in pictorial view or in descriptive manner as decided by the officer in charge should be prepared on a suitable sheet and displayed in OCC CCTV control room.
25		Supply of 35mm PVC Conduit pipe ISI Mark with all accessories for laying of cables.
26		Supply of PVC Flexible pipe of 35mm (This includes all materials, clamps etc. required for laying, fixing and clamping)
27	Item No. 15075 of NCR SOR, NCR/Policy/SOR dt. 25.05.2021	Supply, Installation, testing and Commissioning of on line UPS 5 KVA, with battery back up of minimum 4 hours, with battery trolley, of reputed make as APC/Uniline etc. or similar.
28	Item No. 14012 of NCR SOR, NCR/Policy/SOR dt. 25.05.2021	Supply of Chair model PCH-7001 of Godrej make or of similar reputed make.
29	Item No. 14014 of NCR SOR, NCR/Policy/SOR dt. 25.05.2021	Supply of Chair, superior quality, size 57D x 58W x 88H and seat height 45 mm. make CH-7(Godrej) or of similar reputed make.
30	Item No. 14010 of NCR SOR, NCR/Policy/SOR dt. 25.05.2021	Supply of Office table, laminated top, size minimum 3 ft x 4 ft, make Godrej/Durian/Methodex/President or of similar reputed make.
31	Item No. 11003 of NCR SOR, NCR/Policy/SOR dt. 25.05.2021	Supply of ARA/WAGO terminal block, made of PBT, as per RDSO spec. No. IRS: S-75/2006 (Rev.2) or latest and as per Drawing. No. SA- 23741A (Alt.-4) or latest.
32	Item No. 15087 of NCR SOR, NCR/Policy/SOR dt. 25.05.2021	Loading, Transportation/Carriage and Unloading of various S&T material by a 9 MT truck, from/to the consignee depot to/from various locations, as decided by the site Engineer.
33		Providing and erecting Standard Push button telephone (DTMF) Phones
34		Supply & Installation of wifi 6 Dual Band Router,speed upto 1.8 Gbps.(Netgear / Avaya/Molex/Dax / D-link make only)
35		Supply of 19" 42U Racks and all accessories required for installation purpose of switches.
36	Two qty. for each floor. Item No. 15093 of NCR SOR, NCR/Policy/SOR dt. 25.05.2021	Supply of 8 port Gigabit Lite Managed PoE Layer 2 Switch supports 8 Nos 10/ 100/1000BASE-T ports, along with 2 Gigabit SFP ports, green-saving technologies, make model DG-GS1510HPL DIGISOL / CISCO/JUNIPER or superior.
37		Supply, Installation,Testing and commissioning of 24 port Type-II (Aggregator Switch) switches and all accessories required for their installation.



38	Supply, Installation, Testing and commissioning of 12 port Type-I (Field Switch) switches and all accessories required for their installation.
39	Supply of 19" 9U Racks and all accessories required for installation purpose of switches as per TS-18
40	Supply of Digital Insulation Tester (Megger) 50V-500V/1000 mega ohm battery operated similar to Rishabh make model no. Rish Insu 10 or better with all complete accessories.
41	Supply of Digital AC/DC clamp meter capable of measuring low currents in mA range as well as high current up to 100 A in AC and DC similar to model no. DCM39A of Motwane make or similar
42	Supply of 100 pair krone type connectors with mounting base unit and with CT Box (non metallic) as per RDSO/SPN/TC/97-2012, Rev.0, Necessary required materials shall be supplied by contractor.
43	Supply of 50 pair krone type connectors with mounting base unit and with CT Box (non metallic) as per RDSO/SPN/TC/97-2012, Rev.0, Necessary required materials shall be supplied by contractor.
44	Termination of 100 pair krone type connectors and terminating pair cable with Teak Wood plank as directed by engineer at site.
45	Termination of 50 pair krone type connectors and terminating pair cable with Teak Wood plank as directed by engineer at site.
46	Desktop Core i7, 16 GB/ 1000 GB HDD/ Windows 11 Professional, on site OEM warranty 3 year.
47	Printer Multifunction Machines Mfm, On Site OEM Warranty 3 Year
48	Supply of Digital Multimeter similar to RISHABH model no. 185 with complete accessories

- i. The Service buildings shall be fully electrified and with proper toilet, water supply, sewerage, drainage facility, roof leakage proof, rain water harvesting, boundary wall/fencing etc. The Architectural plan and elevation shall be approved by the Authority Engineer. The proper connecting roads, tree plantation, tree guards, common garden/area, pavement/pathway and other colony specific facilities will be provided by the Contractor. At certain stations framed structure for the building unit shall be preferred.
- ii. The area for service buildings is tentative which may vary as per final design requirement and approval by Authority Engineer.



3. Latest Version

Latest version of the Manuals, Specifications and Standards including the amendments notified/published by the Base Date shall be considered applicable.

4. Terms used in Manuals

The terms ‘Inspector’, ‘AEE/AXEN/ASTE’, ‘DEN/XEN/SSTE’ used in the Manuals shall be deemed to be substituted by the term “Authority Engineer/DFCCIL Representative”; to the extent it is consistent with the provisions of the Agreement.

5. Absence of specific provision

In the absence of any specific provision on any particular issue in the aforesaid Manuals, Specifications, or Standards, the following standards shall apply in order of priority.

Bureau of Indian Standards (BIS)

Euro Codes or British Standards or American Standards

Any other specifications/standards proposed by the Contractor and reviewed by the Authority Engineer.

6. Alternative Specifications and Standards

6.6. The requirements specified in the Manuals are the minimum. The Contractor shall, however, be free to adopt international practices, alternative specifications, materials and standards to bring in innovation in the design and construction provided they are better or comparable with the standards prescribed in the Manuals. The specifications and techniques which are not included in the Indian Railway Manuals/ RDSO specifications shall be supported with authentic specifications and standards specified in paragraph 5 above. Such a proposal shall be submitted by the Contractor to the Authority Engineer. In case, the Authority Engineer is of the opinion that the proposal submitted by the Contractor is not in conformity with any of the international standards or codes, then he shall record his reasons and convey the same to the Contractor for compliance.



6.7. In case, the Contractor is offering an alternative product which is not as per the designs/specifications stipulated in this Agreement, but the same is already in the use with satisfactory performance in one or more major world Railway(s) for more than 5(five) years for the same or higher design speed/rating (as applicable for project line), such product can be permitted to be used by the Authority Engineer in accordance with the Cross Approval policy of the Railway Board as existing at the time of offering of such product. The products covered for the purpose of this clause shall be as per the list provided in the policy.

7. Conceptual Method Statement and Sequence of Working (Working Methodology).

The method statement and sequence of working given here is indicative and for the guidance of the Tenderer only. The brief tentative method statement and sequence of working is described below:

The project work has to be completed and commissioning of entire building is to be done within the timeline given in the contract. The decision to commission a section shall be taken by authority depending on progress of work.

The various activities, but not limited to, involved in execution of the project as under:

(1)		GENERAL WORKS
	(a)	Mobilization at work site
	(b)	Taking over the Land and work site
	(c)	Detailed survey
	(d)	Soil investigations & collection of other data
	(e)	Design of Structures
	(f)	Execution of construction works at site
	(g)	Safety at Work Site
(2)		CIVIL WORKS
	(a)	Construction of Building/Structures
	(b)	Electrification Works
3)		COMMISSIONING OF PROJECT
		After completion of all the works Civil work, the project shall be commissioned after obtaining Commissioner of Railway Safety (CRS) sanction. Contractor shall prepare all relevant documents in soft copies and hard copies as necessary.



7.1. General works

a) Mobilization at work site

The agency shall mobilize at site the required resources like labour, material, rest shelter, site lab, site offices, machinery and all other necessary resources within the period as stipulated in this contract.

b) Taking over the land (95%) and work site

The agency shall take over the land (minimum 95%), work site, existing structures and all other assets required for start of work as per Contract stipulations. Joint survey over the entire stretch shall be done to assess and recording the details of all the features and structures shall be done before taking over the site and land for work. Balance land shall be taken over by the Contractor as defined in the contract.

c) Detailed survey

After taking over the site and land, Contractor shall conduct the detailed survey of the site, collecting data, (overhead, surface and underground data) for various structures, assets and data required for planning, designing and execution of works. Some indicative activities are, fixing of points on ground i.e. fixing the centre line pegs/points, km stones, Temporary Bench Mark (TBM) reference level and fixing the reference points on ground for all the required and obligatory points. Selection of resources/borrow pit areas for earth and section of sources for construction materials etc. Identification of stack area for construction materials, machineries & equipment's, labour etc.

d) Soil investigations & collection of other data

Contractor shall conduct the necessary soil investigations and other tests at required locations to determine the various design parameters for all the structures. Some relevant indicative activities are (but not limited to):-

- i.** Collection of soil samples, boreholes, soil exploration, plate load tests/initial pile load test, testing of disturbed and undisturbed soil samples and determination of the bearing capacity of soil shall be undertaken.
- ii.** Ascertaining various Design parameters for design of all structures of project.
- iii.** Finalization of concrete mix design sources/make of various raw materials, earth quarry and finalization of other parameters for all construction activities.

e) Design of Structures

On the basis of various tests and their results Contractor shall submit the design basis reports for all the structures as specified in this contract and get them approved from Authority Engineer. After approval of design basis reports from Authority Engineer the detailed Designs of buildings & structures, and all other works/structures required to be designed shall be done in accordance with various codal and manual provisions as stipulated in

the Contract. All the designs shall be proof checked from approved proof consultant and submitted to Authority Engineer within the specified period of time schedule as described in article 10. Work at site should only be started after final approval of detailed design of the structure.

f) Execution of construction works at site.

After approval of design and drawings, the construction activities of various works involved in execution of project shall be started at site as per schedule. Broadly, the works can be categorized into following groups: -

i. Works under Normal conditions

The Construction of structure which are located away from existing track, running trains and site is clear as per the DFCCIL Schedule of Dimensions (DFCSOD) provisions i.e. where the safety of railway traffic is not affected. However, such works may involve the safety of other railway assets (other than running trains, track), non-railway assets (private/public), road traffic, workmen & machinery at site, general public etc. for which Contractor shall take due care as per various safety conditions laid down in the Contract in specific and various other prevailing safety norms/practices in general.

ii. Works under Block (If Required)

The construction works to be executed on or in vicinity of running track such as Erection, Fencing etc. (If any) in existing line shall be done under block of specified duration duly sanctioned by DFC authority. The works under block shall be completed within the permitted block period and track/Over Head Equipment (OHE) shall be made fit for train movement on or before the schedule completion of block time. The planning and methodology of such works and block requirement shall be submitted to Authority Engineer at least two weeks in advance . Authority may permit, amend or reject the block requirement as per the prevailing conditions and existing practices for executing similar works. Contractor has to plan the required block durations within the specified aggregate block hours specified in relevant schedule of Contract. Blocking or suspension of even a single line in yard will also be considered as block. It shall be ensured that the individual sanctioned block should be cleared within time. Block bursting if any will subject to penalty as per prescribed conditions of the Contract.

iii. Works under Speed restriction

All works in close proximity to existing track and locations affecting the safety of track & moving trains such as construction work of earthwork and compaction of bank, cutting work near running line attention to existing track, preparatory works before block and post block attention to track etc. shall be executed under restricted train speed conditions. The detailed planning specifying the speed restriction for required duration will be submitted by the Contractor in the same manner as specified for block in Contract. Authority may permit, amend or reject the Speed restriction (SR) requirement as per the prevailing conditions and existing practices for executing similar works. Contractor shall ensure completion of work at site



within the permitted duration of imposed speed restriction and track shall be made fit for normal train movement as per the sanctioned schedule. Contractor shall plan the required speed restriction duration within the specified aggregate speed restriction period allowed for completion of project. Contractor shall arrange to complete all works within the permitted speed restriction schedule.

- g) Safety at work site:** Safety at work site shall be ensured at all times and in all construction activities undertaken by the contractor for completion of the project. Detailed safety instructions have been enumerated in annexure 2 of schedule B, which is within the scope of the work and shall be followed along with all necessary central and state laws related to safety, which are applicable to the site of work.

7.2. Civil works

- a) Execution of building works:** Building works shall be carried out under normal working conditions as per the scope described in schedule B.

The construction works of buildings other structures shall generally be executed at locations away from running track as per provisions of DFC Schedule of Dimensions (DFCSOD) and where the safety and movement of running track is not affected. The general Sequence shall be as follows:

- i. Layout of building/structure at site as per approved plan.
- ii. Provision of safety arrangements at site.
- iii. Clearance of site if required, as per approved plan.
- iv. Excavation of foundation to required level as per plan.
- v. Construction of foundation, sub structure and slabs and works such as launching in case of FOBs shall then be completed
- vi. Testing of materials as per specification.
- vii. Removal of shuttering, and staging after due period which shall be followed by all doors and windows and finishing works as per approved design and drawings.
- viii. Removal of loose materials, debris etc.
- ix. Construction of circulating area/ flooring etc with required and specified construction material to the required/approved specification.
- x. Completion of building work as per approved plan.

8. Commissioning of Project:

The project is envisaged to be commissioned in Single phases. The contractor shall submit a detailed construction plan according to the specified time line for opening of Crew Running Room in consultation with Authority and shall fulfil the commitment by deploying required resources.

9. Interfacing Parties and Related Parties:

The Contractor shall fully coordinate the design of the Works with Interfacing



Parties, all relevant bodies, parties and entities, in particular government authorities, departments and regulatory bodies, utility companies, and the consultants, and contractors of adjacent projects whether ongoing or planned, as advised by the Authority Engineer. The Contractor shall identify all such related parties, bodies and entities in his Interface Management Plan (IMP) and other relevant requirements.



Annex - I

(Schedule-D)

Specifications and Standards for Construction¹⁹

1 Specifications and Standards

All Materials, works and construction operations shall conform to the following manuals:

1.1 For civil works:

- (a) Indian Railways Permanent Way Manual
- (b) Indian Railway Bridge Manual
- (c) Indian Railway Schedule of Dimensions
- (d) The relevant IRS Specifications referred to in the above documents listed at (i), (ii) and (iii)
- (e) Specifications of Works of concerned zonal railway
- (f) In case of any contradiction in the various codal provisions, the order of precedence shall be as follows:-
 - aa) Provisions of this Annex I.
 - bb) IRS Codal provisions
 - cc) IRC Codal provisions
 - dd) IS (BIS) Codal provisions
 - ee) CPWD Codal Provision.

1.2 For signalling and telecommunication works:

- (a) Indian Railway Signal Engineering Manual for signalling; and
- (b) Indian Railway Telecom Manual for telecommunication works.
- (c) Latest IRS / RDSO specifications

1.3 For electrification works:

- (a) Indian Railways Manual AC Traction, Volume-II Part-I and Volume-II Part-II.
- (b) Manual of Standards & Specification for Railway Electrification
- (c) Indian Railways Standards of Dimension

¹⁹ The contents of this Annexure-I may be suitably modified to reflect project specific requirements.



2 Deviations from the Specifications and Standards

[Notwithstanding anything to the contrary contained in Paragraph 1 above, the following Specifications and Standards shall apply to the Railway Project, and for purposes of this Agreement, the aforesaid Specifications and Standards shall be deemed to be amended to the extent set forth below:]

[Specify the deviations, if any]

[**Note:** Deviations from the aforesaid Specifications and Standards shall be listed out here. Such deviations shall be specified only if they are considered essential in view of project-specific requirements.]



Annex - II
(Schedule-D)

(See Clause 10.2.7(c))

Time Schedule for Review of Drawings by the Authority:

Sl. No.	Item	Preparation	Authority's Review with time limit	Review by Open Line/RDSO
1.	Site Sketch Plan	-	-	Approved copy enclosed with RFP.
2.	Ground Floor Plan	-	-	Approved copy enclosed with RFP.
3.	First Floor Plan	-	-	Approved copy enclosed with RFP.
4.	Second Floor Plan	-	-	Approved copy enclosed with RFP.
5.	Third Floor Plan	-	-	Approved copy enclosed with RFP.
6.	Structural Drawings of Building.	Contractor	IIT/NIT	-
7.	AC Layout Plan	Contractor	CGM/DFCCIL	-
8.	Cable Tray Layout Plan	Contractor	CGM/DFCCIL	-
9.	Earthing & Electrical Panel Layout Plan	Contractor	CGM/DFCCIL	-
10.	Electrical Fittings Specification Plan.	Contractor	CGM/DFCCIL	-
11.	External Lightening Layout	Contractor	CGM/DFCCIL	-
12.	Fire Fighting Layout Plan	Contractor	CGM/DFCCIL	-
13.	Interior Layout Plan	Contractor	CGM/DFCCIL	-
14.	Layout Plan for Wifi, Speaker, CCTV, Telephone Etc.	Contractor	CGM/DFCCIL	-
15.	Elevation Plan	Contractor	CGM/DFCCIL	-
16.	Location of DB Plan.	Contractor	CGM/DFCCIL	-
17.	Details of Door and Windows	Contractor	CGM/DFCCIL	-
18.	Electrical Layout Plan	Contractor	CGM/DFCCIL	-



19.	Plumbing Work Plan	Contractor	CGM/DFCCIL	-
20.	Drainage Network Plan	Contractor	CGM/DFCCIL	-
21.	Sewerage Network Plan	Contractor	CGM/DFCCIL	-

Note: All other drawings/designs which are not mentioned herein will fall under the review of Authority Engineer (CGM/DFCCIL as the case may be) and the time limit thereof will be as per the terms and conditions mentioned in the Contract Document.

Third Floor Plan to be developed as per the following requirement:- “ 3 Mtr x 3 Mtr 04 Panel Room by the side of Lifts for Lift’s Electrical Panel, Control Panel & Servo Stabilizer to be developed by Contractor.



SCHEDULE - E

(See Clause 3.1.6(a))

APPLICABLE PERMITS

1 Applicable Permits

1.1 The Contractor shall obtain, as required under Applicable Laws, the following Applicable Permits:

- (a) Permission of the State Government for drawing water from river/reservoir;
- (b) Licence from inspector of factories or other competent Authority for setting up batching plant;
- (c) Clearance of Pollution Control Board for setting up batching plant;
- (d) Clearance from State Electricity Regulatory.
- (e) Clearance of Village Panchayats and Pollution Control Board for setting up asphalt plant;(If Any)
- (f) Permission of Village Panchayats and State Government for borrow earth; and
- (g) Any other permits or clearances required under Applicable Laws.

1.2 Applicable Permits, as required, relating to environmental protection and conservation shall have been or shall be procured by the Authority in accordance with the provisions of this Agreement.



SCHEDULE - F

(See Clauses 7.1.1, 7.5.3 and 17.2)

FORM OF BANK GUARANTEE

Managing Director/ DFCCIL

Acting through (Designation Dated and address of contract signing authority)

PERFORMANCE GUARANTEE BOND

In consideration of the Managing Director/ DFCCIL acting through

(Designation & Address of Contract Signing Authority), Dedicated Freight Corridor Corporation of India Limited, New Delhi hereinafter called “DFCCIL”) having agreed under the terms and conditions of agreement/Contract Acceptance letter No. dated made between (Designation & address of contract signing Authority) and (hereinafter called “the said contractor(s)” for the work (hereinafter called “the said agreement”) having agreed for submission of a irrevocable Bank Guarantee Bond for Rs..... (Rs in words..... only) as a performance security Guarantee Bond from the contractor(s) for compliance of his obligations in accordance with the terms & conditions in the said agreement.

1. We (indicate the name of the Bank) hereinafter referred to as the Bank, undertake to pay to the Government an amount not exceeding Rs. (Rs.....only) on demand by the Government.

2. We (indicate the name of the bank, further agree that (and promise) to pay the amounts due and payable under this guarantee without any demur merely on a demand from the Government through the GROUP GENERAL MANAGER/ FINANCE Dedicated Freight Corridor Corporation of India Limited, New Delhi or _ (Designation & Address of contract signing authority) DFCCIL, stating that the amount claimed is due by way of loss or damage caused to or would be caused or suffered by the Government by reason of any breach by the said contractor of any of the terms or conditions contained in the said agreement or by reason of the contractor failure to perform the said agreement. Any such demand made on the Bank shall be conclusive as regards the amount due and payable by the Bank under this guarantee. However, our liability under this guarantee shall be restricted to an amount not exceeding Rs.....(Rs.....only)

3 (a) We, (indicate the name of Bank) further undertake to pay to the Government any money so demanded notwithstanding any dispute or dispute raised by the contractor (s) in any suit or proceeding pending before any court or Tribunal relating to liability under this present being absolute and unequivocal.

(b) The payment so made by us under this bond shall be valid discharge of our liability for payment there under and the contractor(s) shall have no claim against us for making such payment.

4. We, (indicate the name of bank) to further agree that the guarantee herein contained shall remain in full force and effect during the period that would be taken for the performance of the said agreement and that it shall continue to be enforceable till all the dues of the Government under or by virtue of the said agreement have been fully paid and its claim satisfied or discharged by

(Designation & Address of contract signing authority) on behalf of the Government, certify that the terms and conditions of the said agreement have been fully and properly carried out by the said contractor (s) and accordingly discharges this guarantee.



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

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

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

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

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

9. This guarantee shall be valid upto (Date of expiry of defect liability period plus 60 days beyond that). Unless extended on demand by Government. Notwithstanding anything to the contrary contained herein before, our liability under this guarantee is restricted to Rs.

(Rs only) unless a demand under this guarantee is made on us in writing on or before We, shall be

discharged from our liabilities under this guarantee thereafter.

Dated _____ the day of for _____

_____ (indicate the name of bank)

Signature of Bank Authorize official

(Name):

Designation: Full

Address.

Witness: 1.

2.

(i) The address, telephone number and other details of the head office of the Bank as well as of issuing branch should be mentioned on the covering letter of issuing branch.



Annex – II
(Schedule - F)
(See Clause 7.5.3)

Form of Guarantee for Withdrawal of Retention Money

[General Manager,***

***Railway,

.....]

WHEREAS:

- (A) [insert name and address of the contractor] (hereinafter called the “**Contractor**”) has executed an agreement (hereinafter called the “**Agreement**”) with the [name and address of the project authority], (hereinafter called the “**Authority**”) for the construction of the new railway line between ****_**** in the **** Railway zone on Engineering, Procurement and Construction (the “**EPC**”) basis, subject to and in accordance with the provisions of the Agreement.
- (B) In accordance with Clause 7.5.3 of the Agreement, the Contractor may withdraw the retention money (hereinafter called the “**Retention Money**”) after furnishing to the Authority a bank guarantee for an amount equal to the proposed withdrawal.
- (C) We, through our branch at..... (the “**Bank**”) have agreed to furnish this bank guarantee (hereinafter called the “**Guarantee**”) for the amount of Rs. cr. (Rupees crore) (the “**Guarantee Amount**”).

NOW, THEREFORE, the Bank hereby unconditionally and irrevocably guarantees and affirms as follows:

1. The Bank hereby unconditionally and irrevocably undertakes to pay to the Authority, upon its mere first written demand, and without any demur, reservation, recourse, contest or protest, and without any reference to the Contractor, such sum or sums up to an aggregate sum of the Guarantee Amount as the Authority shall claim, without the Authority being required to prove or to show grounds or reasons for its demand and/or for the sum specified therein.
2. A letter from the Authority, under the hand of an officer not below the rank of [*** in the ***Railway], that the Contractor has committed default in the due and faithful performance of all or any of its obligations for under and in accordance with the Agreement shall be conclusive, final and binding on the Bank. The Bank further agrees that the Authority shall be the sole judge as to whether the Contractor is in default in due and faithful performance of its obligations during and under the Agreement and its decision that the Contractor is in default shall be final, and binding on the Bank, notwithstanding any differences between the Authority and the Contractor,



or any dispute between them pending before any court, tribunal, arbitrators or any other authority or body, or by the discharge of the Contractor for any reason whatsoever.

3. In order to give effect to this Guarantee, the Authority shall be entitled to act as if the Bank were the principal debtor and any change in the constitution of the Contractor and/or the Bank, whether by their absorption with any other body or corporation or otherwise, shall not in any way or manner affect the liability or obligation of the Bank under this Guarantee.
4. It shall not be necessary, and the Bank hereby waives any necessity, for the Authority to proceed against the Contractor before presenting to the Bank its demand under this Guarantee.
5. The Authority shall have the liberty, without affecting in any manner the liability of the Bank under this Guarantee, to vary at any time, the terms and conditions of the Retention Money and any of the rights and powers exercisable by the Authority against the Contractor, and either to enforce or forbear from enforcing any of the terms and conditions contained in the Agreement and/or the securities available to the Authority, and the Bank shall not be released from its liability and obligation under these presents by any exercise by the Authority of the liberty with reference to the matters aforesaid or by reason of time being given to the Contractor or any other forbearance, indulgence, act or omission on the part of the Authority or of any other matter or thing whatsoever which under any law relating to sureties and guarantors would but for this provision have the effect of releasing the Bank from its liability and obligation under this Guarantee and the Bank hereby waives all of its rights under any such law.
6. This Guarantee is in addition to and not in substitution of any other guarantee or security now or which may hereafter be held by the Authority in respect of or relating to the Retention Money.
7. Notwithstanding anything contained hereinbefore, the liability of the Bank under this Guarantee is restricted to the Guarantee Amount and this Guarantee will remain in force for the period specified in paragraph 8 below and unless a demand or claim in writing is made by the Authority on the Bank under this Guarantee all rights of the Authority under this Guarantee shall be forfeited and the Bank shall be relieved from its liabilities hereunder.
8. The Guarantee shall cease to be in force and effect 15 (fifteen) days after the date of the Completion Certificate specified in Clause 12.4 of the Agreement.
9. The Bank undertakes not to revoke this Guarantee during its currency, except with the previous express consent of the Authority in writing, and declares and warrants that it has the power to issue this Guarantee and the undersigned has full powers to do so on behalf of the Bank.
10. Any notice by way of request, demand or otherwise hereunder may be sent by post addressed to the Bank at its above referred branch, which shall be deemed to have been duly authorised to receive such notice and to effect

payment thereof forthwith, and if sent by post it shall be deemed to have been given at the time when it ought to have been delivered in due course of post and in proving such notice, when given by post, it shall be sufficient to prove that the envelope containing the notice was posted and a certificate signed by an officer of the Authority that the envelope was so posted shall be conclusive.

11. This Guarantee shall come into force with immediate effect and shall remain in force and effect up to the date specified in paragraph 8 above or until it is released earlier by the Authority pursuant to the provisions of the Agreement.

Signed and sealed this day of, 20..... at

SIGNED, SEALED AND DELIVERED

For and on behalf of the Bank by:

(Signature)

(Name)

(Designation)

(Code Number)

(Address)

NOTES:

- (i) The bank guarantee should contain the name, designation and code number of the officer(s) signing the guarantee.
- (ii) The address, telephone number and other details of the head office of the Bank as well as of issuing branch should be mentioned on the covering letter of issuing branch.



Annex – III
(Schedule - F)
(See Clause 17.2)

Form of Guarantee for Advance Payment bank guarantee

[***],

[***]DFCCIL

[New Delhi – 110001]. WHEREAS:

- (A) [name and address of the contractor] (hereinafter called the “**Contractor**”) has executed an agreement (hereinafter called the “**Agreement**”) with the [name and address of the project authority], (hereinafter called the “**Authority**”) for the construction of the new railway line between ***in the ***Railway zone on Engineering, Procurement and Construction (the “**EPC**”) basis, subject to and in accordance with the provisions of the Agreement.
- (B) In accordance with Clause 17.2 of the Agreement, the Authority shall make to the Contractor advance payment (herein after called “**Advance Payment**”) equal to 10% (ten per cent) of the Contract Price; and that the Advance Payment shall be made in two installments subject to the Contractor furnishing an irrevocable and unconditional guarantee by a Bank for an amount equivalent to 110% (one hundred and ten percent) of such installment to remain effective till the complete and full repayment of the installment of the Advance Payment as security for compliance with its obligations in accordance with the Agreement. The amount of {first/second} installment of the Advance Payment is Rs.cr. (Rupeescrore) and the amount of this Guarantee is Rs. cr. (Rupees crore) (the “**Guarantee Amount**”)§.
- (C) We, through our branch at..... (the “**Bank**”) have agreed to furnish this bank guarantee (hereinafter called the “**Guarantee**”) for the Guarantee Amount.

NOW, THEREFORE, the Bank hereby, unconditionally and irrevocably, guarantees and affirms as follows:

1. The Bank hereby unconditionally and irrevocably guarantees the due and faithful repayment on time of the aforesaid instalment of the Advance Payment under and in accordance with the Agreement, and agrees and undertakes to pay to the Authority, upon its mere first written demand, and without any demur, reservation, recourse, contest or protest, and without any reference to the Contractor, such sum or sums up to an aggregate sum of the Guarantee Amount as the Authority shall claim, without the Authority being

§The Guarantee Amount should be equivalent to 110% of the value of the applicable installment.



required to prove or to show grounds or reasons for its demand and/or for the sum specified therein.

2. A letter from the Authority, under the hand of an officer not below the rank of [***in the ***DFCCIL], that the Contractor has committed default in the due and faithful performance of all or any of its obligations for the repayment of the instalment of the Advance Payment under and in accordance with the Agreement shall be conclusive, final and binding on the Bank. The Bank further agrees that the Authority shall be the sole judge as to whether the Contractor is in default in due and faithful performance of its obligations during and under the Agreement and its decision that the Contractor is in default shall be final and binding on the Bank, notwithstanding any differences between the Authority and the Contractor, or any dispute between them pending before any court, tribunal, arbitrators or any other authority or body, or by the discharge of the Contractor for any reason whatsoever.
3. In order to give effect to this Guarantee, the Authority shall be entitled to act as if the Bank were the principal debtor and any change in the constitution of the Contractor and/or the Bank, whether by their absorption with any other body or corporation or otherwise, shall not in any way or manner affect the liability or obligation of the Bank under this Guarantee.
4. It shall not be necessary, and the Bank hereby waives any necessity, for the Authority to proceed against the Contractor before presenting to the Bank its demand under this Guarantee.
5. The Authority shall have the liberty, without affecting in any manner the liability of the Bank under this Guarantee, to vary at any time, the terms and conditions of the Advance Payment or to extend the time or period of its repayment or to postpone for any time, and from time to time, any of the rights and powers exercisable by the Authority against the Contractor, and either to enforce or forbear from enforcing any of the terms and conditions contained in the Agreement and/or the securities available to the Authority, and the Bank shall not be released from its liability and obligation under these presents by any exercise by the Authority of the liberty with reference to the matters aforesaid or by reason of time being given to the Contractor or any other forbearance, indulgence, act or omission on the part of the Authority or of any other matter or thing whatsoever which under any law relating to sureties and guarantors would but for this provision have the effect of releasing the Bank from its liability and obligation under this Guarantee and the Bank hereby waives all of its rights under any such law.
6. This Guarantee is in addition to and not in substitution of any other guarantee or security now or which may hereafter be held by the Authority in respect of or relating to the Advance Payment.
7. Notwithstanding anything contained hereinbefore, the liability of the Bank under this Guarantee is restricted to the Guarantee Amount and this Guarantee will remain in force for the period specified in paragraph 8 below and unless a demand or claim in writing is made by the Authority on the



Bank under this Guarantee all rights of the Authority under this Guarantee shall be forfeited and the Bank shall be relieved from its liabilities hereunder.

8. The Guarantee shall cease to be in force and effect on *****.[§] Unless a demand or claim under this Guarantee is made in writing on or before the aforesaid date, the Bank shall be discharged from its liabilities hereunder.
9. The Bank undertakes not to revoke this Guarantee during its currency, except with the previous express consent of the Authority in writing, and declares and warrants that it has the power to issue this Guarantee and the undersigned has full powers to do so on behalf of the Bank.
10. Any notice by way of request, demand or otherwise hereunder may be sent by post addressed to the Bank at its above referred branch, which shall be deemed to have been duly authorised to receive such notice and to effect payment thereof forthwith, and if sent by post it shall be deemed to have been given at the time when it ought to have been delivered in due course of post and in proving such notice, when given by post, it shall be sufficient to prove that the envelope containing the notice was posted and a certificate signed by an officer of the Authority that the envelope was so posted shall be conclusive.
11. This Guarantee shall come into force with immediate effect and shall remain in force and effect up to the date specified in paragraph 8 above or until it is released earlier by the Authority pursuant to the provisions of the Agreement.

Signed and sealed this day of 20..... at

SIGNED, SEALED AND DELIVERED

For and on behalf of the Bank by:

(Signature)

(Name)

(Designation)

(Code Number)

(Address)

NOTES:

- (i) The bank guarantee should contain the name, designation and code number of the officer(s) signing the guarantee.
- (ii) The address, telephone number and other details of the head office of the Bank as well as of issuing branch should be mentioned on the covering letter of issuing branch.

[§] Insert a date being 90 (ninety) days after the end of one year from the date of payment of the Advance payment to the Contractor (in accordance with Clause 17.2 of the Agreement).



SCHEDULE - G

(See Clauses 10.1.4 and 17.3)

Contract Price Weightages

1.1 The total Contract Price for this Agreement is Rs. 31,52,48,573/- .Details of contract price are as below. The total price consists of one lumpsum component and one BOQ (Bill of quantities) component. The Schedule wise cost and the total contract cost is as below:

Schedule	Description	Amount in Rs. (incl. of GST)	Cost to be Quoted by bidder (including GST) %+/- to be quoted by bidder	Quoted Amount in (Rs.) inclusive GST
1.	Price for scope of work under lumpsum component (EPC).	31,52,48,573/- Including GST		
	Grand Total (Contract Price)	Rs. 31,52,48,573/- Including GST		

Schedule -1: - Price for scope of work under lumpsum component (EPC) of this contract is assigned for different components of the Crew Running Room Project as follows:

For works consisting of civil works & electrification:

SCHEDULE- 1 (Price for scope of work under lumpsum component)	
Civil & Electrification works	100% of the Price for scope of work under lumpsum component (Schedule- 1)

The Proportion of the schedule 1 (lumpsum component) Price for different stages of Construction of the Railway Project shall be as specified below:



Item	Weightage in percentage to Price quoted for Schedule-1	Stage for Payment	Percentage weightage	Payment Procedure
1	2	3	4	5
SCHEDULE-1 (SCOPE OF WORK UNDER LUMPSUM COMPONENT-EPC)				
Design Part				
1.1 Survey, Investigation, Design, Setting Out, and As Build Drawing	02% Of Contract Price	1.1.1 Site Survey and Finalization of Alignment.	10% of 02%	Unit of measurement is Sq Mtr. Payment of each stage shall be made on pro rata basis on completion of a stage as per weightage given In the schedule.
		1.1.2 Site Data Collection, Detailed Geotechnical & Hydrological Investigation and report submission.	20% of 02%	
		1.1.3 Preliminary Design of the Building layout, Building Elevation, Floor Wise Structural Plan, Drainage System, Fire Fighting layout, Sewerage System, Lift Arrangement, External & Internal Lighting Arrangement, Lightening Protection Layout, AC Layout, Cable Tray Layout, Electrical panel Layout, S&T Panel & Layout, Interior Layout, Tile Layout, Boundary Wall etc.	30% of 02%	



	1.1.4 Definite Design of the Building layout, Building Elevation, Floor Wise Structural Plan, Drainage System, Fire Fighting layout, Sewerage System, Lift Arrangement, External & Internal Lighting Arrangement, Lightning Protection Layout, AC Layout, Cable Tray Layout, Electrical panel Layout, S&T Panel & Layout, Interior Layout, Tile Layout etc.	20% of 02%
	1.1.5 Setting Out of Final Alignment with location Of All Component.	10% of 02%
	1.1.6 Completion Drawing.	10% of 02%
	Total	100%



Item	Weightage in percentage to Price quoted for Schedule-1	Stage for Payment	Percentage weightage	Payment Procedure
1	2	3	4	5
SCHEDULE-1 (SCOPE OF WORK UNDER LUMPSUM COMPONENT-EPC)				
Building Works (Civil & Electrical Part)				
1.2 Construction Of Crew Running Room (Indoor Works)	92%	1.2.1 Construction Of Structure Upto Plinth Level	20% of 92%	Unit of measurement is Sq Mtr. Payment of each stage shall be made on pro rata basis on completion of a stage as per weightage given In the schedule.
		1.2.2 Completion Of Each Floor of Structure Including Roof for “N” Storeyed Structure. ((45%/N) of 80%)	-	
		1.2.2.1. Excluding Brickwork, plastering, doors and window.	(35%/N) of 92%	
		1.2.2.2. After Successful Completion Of Brickwork, plastering, doors and window.	(10%/N) of 92%	
		1.2.4 Completion Of Entire Building including flooring, finishing, plumbing, internal electrical and power supply and distribution works, water supply and sanitary works, Fire Fighting System, Lifts, Electrical & S&T Panel & cabling works etc complete.	35% of 92%	
-	-	Total	100%	-



<p>1.3. On Completion of Out Door Power Supply Works, Outdoor and lighting, Water Supply, Drainage, Sewerage, rain Water harvest, Boundary Wall, Parking area, Internal Road, pump house, power supply, Sewerage Treatment Plant, Horticulture works and other developmental works to complete the Construction Of Crew Running Room in all respect.</p>	<p>06%</p>	<p>1.3.1 On Completion of Out Door Power Supply Works, Outdoor and lighting, Water Supply, Drainage, Sewerage, rain Water harvest, Boundary Wall, Parking area, Internal Road, pump house, power supply, Sewerage Treatment Plant, Horticulture works and other developmental works to complete the Construction Of Crew Running Room in all respect.</p>	<p>100% of 06%</p>	<p>Unit of measurement is Sq Mtr. Payment of each stage shall be made on pro rata basis on completion of a stage as per weightage given In the schedule.</p>
	<p>-</p>	<p>Total</p>	<p>100%</p>	
<p>Grand Total</p>	<p>100%</p>			



SCHEDULE - H
(See Clause 10.2.7)



DRAWINGS

1 Drawings

In compliance of the obligations set forth in Clause 10.2 of this Agreement, the Contractor shall furnish to the Authority Engineer, free of cost, all Drawings listed in Annex-I of this Schedule-H.

2 Additional Drawings

If the Authority Engineer determines that for discharging its duties and functions under this Agreement, it requires any drawings other than those listed in Annex-I, it may by notice require the Contractor to prepare and furnish such drawings forthwith. Upon receiving a requisition to this effect, the Contractor shall promptly prepare and furnish such drawings to the Authority Engineer, as if such drawings formed part of Annex-I of this Schedule-H.

Annexure-I

(Schedule-H)

List of Drawings

List of Drawings and Documents to be furnished by the Contractor shall include, but not be limited to:

1. General & Civil Engineering:
 - (a) General arrangement drawings of Structures; and
 - (b) Crew Running Room Building including cabins, approach connectivity etc.
 - (c) Details of existing utilities in ROW and plan for their shifting (If Any).
 - (d) All the drawings listed above in Schedule-D, etc.



SCHEDULE - I
(See Clause 10.3.2)

PROJECT COMPLETION SCHEDULE

1 Time Schedule:

2 Time of start and completion:

- The time allowed for execution of the works is 09 (Nine) months from the date of issue of letter of acceptance from DFCCIL.
- The contractor shall be expected to mobilize to the site of works and commence execution of the works within 15 (days) from issue of Acceptance Letter by DFCCIL.
- The contractor shall be expected to complete the whole work ordered on the contractor within 09 (Nine) months from the date of issue of Acceptance Letter by DFCCIL.
- If the contractor commits defaults in commencing execution of the works as afore stated, DFCCIL shall without prejudice to any other right to remedy, be at liberty to forfeit fully the Earnest Money Deposit and performance guarantee of the contractor.

3 Progress of works:

The contractor shall submit a programme of work in the form of a Bar Chart of all the activities in consistence with milestone target envisaged below. In case this bar chart requires to be modified, the Engineer and the contractor shall agree upon a time and progress chart. The chart shall be prepared in direct relation to the time stated as 11 (Eleven) months for the completion of the works as the milestone targets specified below of these special conditions. It shall indicate the forecast of the dates of commencement and completion of various activities of the work and may be amended as necessary by agreements between the Engineer and the contractor within the limitation of 11 (Eleven) months as overall completion period.

4 Achievement of milestone progress:

In order to ensure progress during the execution of the work the contractor will be expected to achieve the following milestone targets ahead of dates mentioned against each. Failure to achieve accomplished milestone targets within allocated timeframe, save for reason accepted as laid by the Engineer shall create and constitute the ground for failure on the part of contractor for maintaining progress of the work as per agreed programme.

Milestone Targets	Time allocated within which to achieve completion in total 09 (Nine) month time
(a) Physical commencement of work	D + 10 days
(b) Mobilization of equipments	D + 15 days



(c) Full mobilization of plant , machinery, men and material	D + 20 days
(d) Construction of crew running room	D+20 to D+270 days

Note:“D” is the date of issue of Letter of Acceptance by DFCCIL to the contactor.

5 Extension of time

Upon extension of any or all of the aforesaid Project Milestones or the Scheduled Completion Date, as the case may be, under and in accordance with the provisions of this Agreement, the Project Completion Schedule shall be deemed to have been amended accordingly.]

SCHEDULE - J

(See Clause 12.1.2)

Tests on Completion

1 Schedule for Tests

- 1.1 The Contractor shall, no later than 30 (thirty) days prior to the likely completion of construction, notify the Authority Engineer and the Authority of its intent to subject the Crew Running Room Project to Tests, and no later than 10 (ten) days prior to the actual date of Tests, furnish to the Authority Engineer / DFCCIL detailed inventory and particulars of all works and equipment forming part of Works.
- 1.2 The Contractor shall notify the Authority Engineer/DFCCIL of its readiness to subject the Crew Running Room Project to Tests at any time after 10 (ten) days from the date of such notice, and upon receipt of such notice, the Authority Engineer/DFCCIL shall, in consultation with the Contractor, determine the date and time for each Test and notify the same to the Authority who may designate its representative to witness the Tests. The Authority Engineer shall thereupon conduct the Tests itself or cause any of the Tests to be conducted in accordance with Article 12 and this Schedule-J.

2 Tests

- 2.1 Visual and physical test: The Authority Engineer shall conduct a visual and physical check of construction to determine that all works and equipment forming part thereof conform to the provisions of this Agreement. The physical tests shall include the tests as prescribed in this contract.
- 2.2 Integrated Testing/ Track testing of system followed by a period of trial running. The test sequence may be as shown below:-
- a) Tests on Equipment/ track
 - b) Installation Test and sub-system individually
 - c) System Integrated Test
 - d) Final Acceptance Test
- 2.3 Other tests: The Authority Engineer may require the Contractor to carry out or cause to be carried additional tests, in accordance with Good Industry Practice, for determining the compliance of the Railway Project with Specifications and Standards.
- 2.4 Environmental audit: The Authority Engineer shall carry out a check to determine conformity of the Railway Project with the environmental requirements set forth in Applicable Laws and Applicable Permits.
- 2.5 Safety Audit: The Authority Engineer shall carry out, or cause to be carried out, a safety audit to determine conformity of the Railway Project with the safety requirements and Good Industry Practice.



3 Agency for conducting Tests

All Tests set forth in this Schedule-J shall be conducted by the Authority Engineer or such other agency or person as it may specify in consultation with the Authority.

4 Completion Certificate

Upon successful completion of Tests, the Authority Engineer shall issue the Provisional Certificate in accordance with the provisions of Article 12. For the avoidance of doubt, the Completion Certificate shall be issued by the Authority Engineer/DFCCIL



SCHEDULE - K
(See Clause 12.2 and 12.4)

1. PROVISIONAL CERTIFICATE

- 1 I/We, (Name of the Authority Engineer), acting as the Authority Engineer, under and in accordance with the Agreement dated (the “**Agreement**”), for construction of the in the State ofin-..... DFC (the “**Railway Project**”) on Engineering, Procurement and Construction (EPC) basis through (Name of Contractor), hereby certify that the Tests in accordance with Article 12 of the Agreement have been undertaken to determine compliance of the Railway Project with the provisions of the Agreement.
- 2 Certain minor works are incomplete and these are not likely to cause material inconvenience to the Users of the Crew Running Room Project or affect their safety in any manner. These works have been specified in the Punch List appended hereto, and the Contractor has agreed and accepted that it shall complete all such works in the time and manner set forth in the Agreement.
- 3 In view of the foregoing, I/We am/are satisfied that the Crew Ruuning Room Project can be safely and reliably placed in service of the Authority, subject to authorisation bythe Chef General Manager in accordance with Applicable Laws. Interns of the Agreement, the Crew Ruuning Room Project is hereby provisionally declared fit for entry into operation on this the day of 20.....

ACCEPTED, SIGNED, SEALED
AND DELIVERED
For and on behalf of
CONTRACTOR by:
by:

(Signature)

SIGNED, SEALED AND
DELIVERED
For and on behalf of
AUTHORITY ENGINEER

(Signature)



2. COMPLETION CERTIFICATE

1 I/We, (Name of the Authority Engineer), acting as the Authority Engineer, under and in accordance with the Agreement dated (the “**Agreement**”), for construction of the (the “**Railway Project**”) on Engineering, Procurement and Construction (EPC) basis through (Name of Contractor), hereby certify that the Tests in accordance with Article 12 of the Agreement have been successfully undertaken to determine compliance of the Railway Project with the provisions of the Agreement, and the authorisation by the Chief General Manager under Applicable Laws has been obtained.

2 It is certified that, in terms of the aforesaid Agreement, all works forming part of Railway Project have been completed, and the Railway Project is hereby declared fit for entry into operation on this the day of 20.....

SIGNED, SEALED AND DELIVERED

For and on behalf of

the Authority Engineer by:

(Signature)

(Name)

(Designation)

(Address)



SCHEDULE - L
(See Clause 16.1.1)

SELECTION OF AUTHORITY ENGINEER

1 Selection of Authority Engineer

- 1.1 Generally, a DFC officer of Selection Grade (SG) i.e. CGM/GM.CO./GM /Junior Administrative Grade (JAG) Dy. CPM shall be appointed as Authority Engineer.

2 Terms of Reference

The Terms of Reference for the Authority Engineer (the “**TOR**”) shall substantially conform with Annex 1 to this Schedule L.



Annex – I
(Schedule - L)

DUTIES & RESPONSIBILITIES FOR AUTHORITY ENGINEER

1 Scope

- 1.1 These Duties & Responsibilities (DR) shall apply to construction and maintenance (wherever applicable) of the Railway Project.

2 Definitions and interpretation

- 2.1 The words and expressions beginning with or in capital letters and not defined herein but defined in the Agreement shall have, unless repugnant to the context, the meaning respectively assigned to them in the Agreement.
- 2.2 References to Articles, Clauses and Schedules in this DR shall, except where the context otherwise requires, be deemed to be references to the Articles, Clauses and Schedules of the Agreement, and references to Paragraphs shall be deemed to be references to Paragraphs of this DR.
- 2.3 The rules of interpretation contained in Clauses 1.2, 1.3 and 1.4 of the Agreement shall apply, *mutatis mutandis*, to this DR.

3. General

- 3.1 The Authority Engineer shall discharge its duties in a fair, impartial and efficient manner, consistent with the highest standards of professional integrity and Good Industry Practice.
- 3.2 The Authority Engineer shall perform the duties and exercise the authority in accordance with the provisions of this Agreement, but subject to obtaining prior written approval of the Authority (where Authority Engineer is designated as the Authority, the compliance of these conditions have to be ensured by him/her) before determining:
- (a) any Time Extension;
 - (b) any additional cost to be paid by the Authority to the Contractor;
 - (c) the Termination Payment;
 - (d) providing Power Block or Traffic Block to the Contractor;
 - (e) approval of signalling plan and signalling plan and route control chart;
 - (f) approval of disconnections for modification of signalling and telecom works;

- 3.3 The Authority Engineer shall submit regular periodic reports, at least once every month, to the Authority in respect of its duties and functions assigned to him for the project. Such reports shall be submitted by the Authority Engineer within 10 (ten) days of the beginning of every month.
- 3.4 The Authority Engineer shall aid and advise the Authority on any proposal for Change of Scope under Article 13.
- 3.5 In the event of any disagreement regarding the meaning, scope and nature of Good Industry Practice, as set forth in any provision of the Agreement, the Authority Engineer shall specify such meaning, scope and nature by issuing a reasoned written statement relying on Good Industry Practice and authentic literature.
- 3.6 The Authority Engineer shall verify the as built drawings submitted by the Contractor after completion of the works. These drawings will be signed by the Authority Engineer after due verification.

4. Construction Period

- 4.1 During the Construction Period, the Authority Engineer shall review the Drawings furnished by the Contractor along with supporting data, including the geo-technical and hydrological investigations, characteristics of materials from borrow areas and quarry sites and topographical surveys. The Authority Engineer shall complete such review and send its observations to the Authority and the Contractor within 15 (fifteen) days of receipt of such Drawings; provided, however that in case of an Important Bridge, a Major Bridge or Structure, and interlocking and telecom switching equipment the aforesaid period of 15 (fifteen) days may be extended up to 30 (thirty) days. In particular, such comments shall specify the conformity or otherwise of such Drawings with the Scope of the Project and Specifications and Standards.
- 4.2 The Authority Engineer shall review any revised Drawings sent to it by the Contractor and furnish its comments within 10 (ten) days of receiving such Drawings.
- 4.3 The Authority Engineer shall review the Quality Assurance Plan submitted by the Contractor and shall convey its comments to the Contractor within a period of 21 (twenty-one) days stating the modifications, if any, required thereto.
- 4.4 The Authority Engineer shall complete the review of the methodology proposed to be adopted by the Contractor for executing the Works, and convey its comments to the Contractor within a period of 10 (ten) days from the date of receipt of the proposed methodology from the Contractor.
- 4.5 The Authority Engineer shall grant written approval to the Contractor, where necessary, for interruption and diversion of the flow of traffic in the existing lane(s) of the Proposed Project for purposes of maintenance during the Construction Period in.



- 4.6 The Authority Engineer shall review the monthly progress report furnished by the Contractor and send its comments thereon to the Authority and the Contractor within 7 (seven) days of receipt of such report.
- 4.7 The Authority Engineer shall inspect the Construction Works and the Railway Project and shall submit a monthly Inspection Report bringing out the results of inspections and the remedial action taken by the Contractor in respect of Defects or deficiencies.
- 4.8 The Authority Engineer shall conduct the pre-construction review of manufacturer's test reports and standard samples of manufactured Materials, and such other Materials as the Authority Engineer may require.
- 4.9 For determining that the Works conform to Specifications and Standards, the Authority Engineer shall require the Contractor to carry out, or cause to be carried out, tests at such time and frequency and in such manner as specified in the Agreement and in accordance with Good Industry Practice for quality assurance. For purposes of this Paragraph 4.9, the tests specified in Manuals or any modification/substitution thereof shall be deemed to be tests conforming to Good Industry Practice for quality assurance.
- 4.10 The Authority Engineer shall test check prescribed in this agreement for each category or type of test for quality control by the Contractor.
- 4.11 The timing of tests referred to in Paragraph 4.9, and the criteria for acceptance/ rejection of their results shall be determined by the Authority Engineer in accordance with the Quality Control Manuals. The tests shall be undertaken on a random sample basis and shall be in addition to, and independent of, the tests that may be carried out by the Contractor for its own quality assurance in accordance with Good Industry Practice.
- 4.12 In the event that results of any tests conducted under Clause 11.10 establish any Defects or deficiencies in the Works, the Authority Engineer shall require the Contractor to carry out remedial measures.
- 4.13 The Authority Engineer may instruct the Contractor to execute any work which is urgently required for the safety of the Railway Project, whether because of an accident, unforeseeable event or otherwise; provided that in case of any work required on account of a Force Majeure Event, the provisions of Clause 19.6 shall apply.
- 4.14 In the event that the Contractor fails to achieve any of the Project Milestones, the Authority Engineer shall undertake a review of the progress of construction and identify potential delays, if any. If the Authority Engineer shall determine that completion of the Proposed Project is not feasible within the time specified in the Agreement, it shall require the Contractor to indicate within 15 (fifteen) days the steps proposed to be taken to expedite progress, and the period within which the Project Completion Date shall be achieved. Upon receipt of a report from the Contractor, the Authority Engineer shall review the same and send its comments to the Authority and the Contractor forthwith.



- 4.15 The Authority Engineer shall obtain from the Contractor a copy of all the Contractor's quality control records and documents before the Completion Certificate is issued pursuant to Clause 12.4.
- 4.16 Authority Engineer may recommend to the Authority suspension of the whole or part of the Works if the work threatens the safety of the public and pedestrians. After the Contractor has carried out remedial measure, the Authority Engineer shall inspect such remedial measures forthwith and make a report to the Authority recommending whether or not the suspension hereunder may be revoked.
- 4.17 In the event that the Contractor carries out any remedial measures to secure the safety of suspended works and the public, and requires the Authority Engineer to inspect such works, the Authority Engineer shall inspect the suspended works within 3 (three) days of receiving such notice, and make a report to the Authority forthwith, recommending whether or not such suspension may be revoked by the Authority.
- 4.18 The Authority Engineer shall carry out, or cause to be carried out, all the Tests specified in Schedule-J and issue a Completion Certificate or Provisional Certificate, as the case may be. For carrying out its functions under this Paragraph 4.18 and all matters incidental thereto, the Authority Engineer shall act under and in accordance with the provisions of Article 12 and Schedule-J.

5. Determination of costs and time

- 5.1 The Authority Engineer shall determine the costs, and/or their reasonableness, that are required to be determined by it under the Agreement.
- 5.2 The Authority Engineer shall determine the period of Time Extension that is required to be determined by it under the Agreement.
- 5.3 The Authority Engineer shall consult each Party in every case of determination in accordance with the provisions of Clause 16.5.

6. Payments

- 6.1 The Authority Engineer shall withhold payments for the affected works for which the Contractor fails to revise and resubmit the Drawings to the Authority Engineer in accordance with the provisions of Clause 10.2.7 (d).



6.2 Authority Engineer shall -

- (a) within 10 (ten) days of receipt of the Stage Payment Statement from the Contractor pursuant to Clause 17.4, determine the amount due to the Contractor and recommend the release of 80 (eighty) percent of the amount so determined as part payment, pending issue of the Interim Payment Certificate; and
- (b) within 20 (twenty) days of the receipt of the Stage Payment Statement referred to in Clause 17.4, deliver to the Authority and the Contractor an Interim Payment Certificate certifying the amount due and payable to the Contractor.

7. Other duties and functions

The Authority Engineer shall perform all other duties and functions as specified in the Agreement.

8. Miscellaneous

- 8.1 A copy of all communications, comments, instructions, Drawings or Documents sent by the Authority Engineer to the Contractor pursuant to this TOR, and a copy of all the test results with comments of the Authority's Engineer thereon, shall be furnished by the Authority's Engineer to the Authority forthwith.
- 8.2 The Authority Engineer shall retain at least one copy each of all Drawings and Documents received by it, including 'as-built' Drawings, and keep them in its safe custody.
- 8.3 Within 90 (ninety) days of the Project Completion Date, the Authority Engineer shall obtain a complete set of as-built Drawings, in 2 (two) hard copies and in micro film form or in such other medium as may be acceptable to the Authority, reflecting the Railway Project as actually designed, engineered and constructed, including an as-built survey illustrating the layout of the Railway Project and setback lines, if any, of the buildings and structures forming part of Project Facilities; and shall hand them over to the Authority against receipt thereof.
- 8.4 The Authority Engineer shall inform the Authority and the Contractor of any event of Contractor's Default within one week of its occurrence.



SCHEDULE - M

(See Clauses 17.4.1, 17.6.1, and 17.6.1)

Forms of Payment Statements

1. Stage Payment Statement for Works

The Stage Payment Statement for Works shall state:

- (a) the estimated amount for the Works executed in accordance with Clause 17.3.1 subsequent to the last claim;
- (b) amounts reflecting adjustments in price for the aforesaid claim;
- (c) the estimated amount of each Change of Scope Order executed subsequent to the last claim;
- (d) amounts reflecting adjustment in price, if any, for (c) above in accordance with the provisions of Clause 13.2.3 (a);
- (e) total of (a), (b), (c) and (d) above;
- (f) Deductions:
 - (i) Any amount to be deducted in accordance with the provisions of the Agreement except taxes;
 - (ii) Any amount payable by the Contractor to the Authority under the provisions of the Agreement; and
 - (iii) Any amount towards deduction of taxes at source under Applicable Laws.
 - (iv) Total of (i) to (iii) above.
- (g) Net claim: (e) – (f) (iv);
- (h) The amounts received by the Contractor up to the last claim:
 - (i) For the Works executed (excluding Change of Scope orders);
 - (ii) For Change of Scope Orders, and
 - (iii) Taxes deducted at source under Applicable Laws

2. Contractor's claim for Damages

Note: The Contractor shall submit its claims in a form acceptable to the Authority.

—



SCHEDULE - N
(See Clause 18.1)

INSURANCE

1. Insurance during Construction Period

1.1 The Contractor shall effect and maintain at its own cost, from the Appointed Date till the date of issue of the Completion Certificate, the following insurances for any loss or damage occurring on account of Non Political Event of Force Majeure, malicious act, accidental damage, explosion, fire and terrorism:

- (a) insurance of Works, Plant and Materials and an additional sum of [15% (fifteen per cent)] of such replacement cost to cover any additional costs of and incidental to the rectification of loss or damage including professional fees and the cost of demolishing and removing any part of the Works and of removing debris of whatsoever nature; and
- (b) insurance for the Contractor's equipment and Documents brought onto the Site by the Contractor, for a sum sufficient to provide for their replacement at the Site.

1.2 The insurance under paragraph 1.1 (a) and (b) above shall cover the Authority and the Contractor against all loss or damage from any cause arising under paragraph 1.1 other than risks which are not insurable at commercial terms.

2. Insurance for Contractor's Defects Liability

The Contractor shall effect and maintain insurance cover for the Works from the date of issue of the Completion Certificate until the end of the Defects Liability Period for any loss or damage for which the Contractor is liable and which arises from a cause occurring prior to the issue of the Completion Certificate. The Contractor shall also maintain other insurances for maximum sums as may be required under Applicable Laws and in accordance with Good Industry Practice.

3. Insurance against injury to persons and damage to property

3.1 The Contractor shall insure against its liability for any loss, damage, death or bodily injury, or damage to any property (except things insured under Paragraphs 1 and 2 of this Schedule) or to any person (except persons insured under Clause 18.9), which may arise out of the Contractor's performance of this Agreement. This insurance shall be for a limit per occurrence of not less than the amount specified below with no limit on the number of occurrences.

The insurance cover shall be not less than: Rs. 50,00,000/-



- 3.2 The insurance shall be extended to cover liability for all loss and damage to the Authority's property arising out of the Contractor's performance of this Agreement excluding:
- (a) the Authority's right to have the construction works executed on, over, under, in or through any land, and to occupy this land for the Works; and
 - (b) damage which is an unavoidable result of the Contractor's obligations to execute the Works.

4. Insurance to be in joint names

The insurance under paragraphs 1 to 3 above shall be in the joint names of the Contractor and the Authority.



SCHEDULE - O

(See Clauses 4.6 & 4.7)

Provision of Traffic Blocks and Power Blocks

1. Provision of Traffic Blocks Power Blocks and Disconnections

- 1.1 The authority shall provide Power Blocks or Traffic Blocks or Power Blocks, or both, during day or night, as the case may be, to enable the Contractor to execute the construction works of overhead equipment, or such other work as may be determined by the Authority Engineer. The maximum aggregate duration of blocks for the Railway Project shall be 100 hours.
- 1.2 The Contractor is entitled to execute the construction work within the block period specified in this Schedule-O. The total duration of Power Block or Traffic Block or both, as the case may be, shall not exceed 20% of the period specified in this Agreement. In case such total duration exceeds 20% the Contractor shall pay Damages at the rate of Rs. 5000 per hour or part thereof for the exceeded Block periods.
- 1.3 The Authority shall arrange for disconnections of S&T system as determined by Authority Engineer, to enable the Contractor to execute the construction work which affects existing Signalling and Telecommunication installations.



SCHEDULE - P

(See Clauses 4.4)

Machinery and equipment

1. It would be clearly understood that it is entirely the Contractor's responsibility and liability to procure all the machinery, tools and plants, and their spare parts that are required for the efficient and methodical execution of the work. Delay in procurement of such items due to their non-availability or its import difficulties of any other causes whatsoever, will not be taken as an excuse for slow or non performance of work.



SCHEDULE – Q
TENDER FORMS

FORM No.	SUBJECT
Form No. 1	Offer Letter
Form No. 2	Tenderer's Credentials
Form No. 2A	Technical Eligibility Criteria
Details Form No. 2B	Financial Eligibility Criteria
Details Form No. 2C	Applicant's Party Information
Form Form No. 3	Deleted
Form No. 4	Deleted
Form No. 5	Deleted
Form No. 6	Deleted
Form No. 7	Standing indemnity bond for on account payment.
Form No. 8	ECS / NEFT / RTGS
Form No. 9	(MOU) For JOINT VENTURE PARTICIPATION
Form No.10	FORMAT OF JOINT VENTURE AGREEMENT
FormNo.11	PROFORMA LETTER OF PARTICIPATION FROM EACH PARTNER OF JOINTVENTURE (JV)
Form No.12	FORMAT FOR POWER OF ATTORNEY FOR AUTHORISED SIGNATORYOF JOINT VENTURE (JV) PARTNERS
FormNo.13	FORMAT FOR POWER OF ATTORNEY TO LEAD PARTNER OF JOINT VENTURE (JV)
Form No. 14	Deleted
Form No. 15	Deleted
Form No. 16	Deleted
Form No. 17	Deleted
Form No. 18	Deleted
Form No. 19	Deleted
Form No. 20	Format of Integrity pact
Form No. 21	Declaration By Contractor
Form No. 22	Format For Affidavit
Form No. 23	Format for competency



OFFER LETTER
Tender No. EDFC/PRYJ/E/EN/RR/2024/01

Name of Work: Construction of Crew Running Room at DDUN Station in connection with DFCCIL work, under jurisdiction of DFCCIL/CGM/ PRYJ(E)

To,
The Managing Director,
DFCCIL,

We, the undersigned, declare that:

- (a) We have examined and have no reservations to the Bidding Documents, including Addenda.
- (b) We offer to execute the Works in conformity with the Bidding Documents;
- (c) Our bid shall be valid for a period of 120 days from the date fixed for the bid submission deadline in accordance with the Bidding Documents, and it shall remain binding upon us and may be accepted at any time before the expiration of that period;
- (d) We have not been black listed/banned in accordance with para.1.3.13 (ii)(v)(a) of Preamble and General Instructions to tenderers.
- (e) We are neither Bankrupt/Insolvent nor in the process of winding-up nor there is a case pending before any Court on deadline of submission of the Bid in accordance with para.1.3.13 (ii) (v) (b) of Preamble and General Instructions to tenderers.
- (f) If our bid is accepted, we commit to obtain a Performance Guarantee in accordance with the Bidding Documents;
- (g) If our bid is accepted, we committed deploy key equipment and key personnel consistent with the requirements of the work.
- (h) We understand that this bid, together with your written acceptance there of included in your notification of award/Letter of Acceptance (LOA), shall constitute a binding contract between us, until a formal contract is prepared and executed; and
- (i) All information, statements and description in this bid are in all respect true, correct and complete to the best of our knowledge and belief and we have not made any tampering or changes in the bidding documents on which the bid is being submitted and if any tampering or changes/incorrect information are detected at any stage, we understand the bid will invites summarily rejection and forfeiture of bid security, the contract will be liable to be terminated along with forfeiture of performance security, even if LOA has been issued.



- (j) We understand that you are not bound to accept the lowest bid or any other bid that you may receive.
- (k) Our Bid has been prepared after thorough application of mind and due diligence.
- (l) Our Bid is complete in all respect, in terms of Bid Notification. All the required substantiating Documents have been attached and the required averments have been appended in this Bid.
- (m) We, the Bidder, are, fully aware that We shall be, fully, responsible for any omission or any deficiency in information, required averments or documentation.
- (n) We, the Bidder shall desist from submitting, after formally submitting our Bid, any information or any document unless specifically asked by the Employer.
- (o) We, the Bidder, fully meet (in letter & spirit) the eligibility criteria, as stipulated in XXX of bid document, as amended vide subsequently issued Addenda.
- (p) We, the Bidder, undertake, to observe, at all times, the Indian laws against fraud and corruption, including bribery, in force at the time of Bid submission.

Certificate

This is to certify that our Bid submission is in full compliance with all the conditions, requirements and stipulations, as included in this Bid Documents including all the related Notifications and Addenda thereto

Full Signature of Bidder Authorised representative	
Name	
Designation	
Cell phone number	
E Mail ID	



Check List of Form-1

Sr No.	Requirements of Technical Bid	Reference Clause No. of Bid Documents	Bidder's Name:-----	
			Yes / No	Ref. # Page No of Bid Documents
01	Offer Letter with the Bid submission	Form no-1		
02	This Check List with the above cited Covering Letter	Form no-1A		
03	Form-2A (Technical eligibility criteria detail)	Instruction to tenderer (ITT) sub clause 1.3.13.(i).(A)		
04	Form-2B [Financial Eligibility Criteria Details]	Instruction to tenderer (ITT) sub clause 1.3.13.(i).(B)		
05	Form-2C [Applicant's Party Information Form]	-		
06	Form-8 ECS/NEFT/RTGS	-		
07	Form-9 [DRAFT MEMORANDUM OF UNDERSTANDING (MOU) For JOINT VENTURE PARTICIPATION]	-		
08	Form-10 [DRAFT FORMAT OF JOINT VENTURE AGREEMENT]	-		
09	Form-12 [FORMAT FOR POWER OF ATTORNEY FOR AUTHORISED SIGNATORY OF JOINT VENTURE (JV) PARTNERS] Note- POA to be issued by the Competent Authority (who has been Authorised by the Bidder's Board of Directors (BoD) to delegate the Authority and issue, Power of Attorney". BoD Minutes to this effect to be attached mandatorily.	-		
10	Form-13 [FORMAT FOR POWER OF ATTORNEY TO LEAD PARTNER OF JOINT VENTURE (JV)] Note- POA to be issued by the Competent Authority (who has been Authorised by the Bidder's Board of Directors (BoD) to delegate the Authority and issue, Power of Attorney". BoD Minutes to this effect to be attached mandatorily.	-		
11	Formno.20- PRECONTRACT INTEGRITY PACT	-		



Tender No: EDFC/PRYJ/E/EN/RR/2024/01

12	<i>FORMNo.21- Declaration of Site Investigation</i>	-		
13	<i>FormNo.22- FORMAT FOR AFFIDEVIT</i>	-		
14	<i>FormNo.23- FORMAT FOR Competency</i>	-		
15	<i>Certificate for Associate Electrical Contractor</i>	Annexure-I (Schedule-B)		



TENDERER'S CREDENTIALS

1. For technical experience/competence, give details of similar completed Works during the last three financial years (i.e. current Financial year and three previous Financial Years) in the proforma given in Form-2A.
2. For financial capacity and organizational resources, give details of Contractual payments received for the last three financial years (i.e. current Financial year and three previous financial years) as per audited balance sheet certified by Chartered Accountant in the proforma given in Form-2B.
3. Give constitution of your firm. Attach certified copies of legal documents in support thereof. Form-2C.



TENDERER'S CREDENTIALS

S. No	Description
1.	For technical experience/competence, give details of similar completed Works during the last three financial years(i.e. current Financial year and three previous Financial Years) in the proforma given in Form-2A
2.	For financial capacity and organizational resources, give details of Contractual payments received for the last three financial years (i.e. current Financial year and three previous financial years) as per audited balance sheet certified by Chartered Accountant in the proforma given in Form-2B
3.	Give constitution of your firm. Attach certified copies of legal documents in support thereof. Form-2C



TECHNICAL ELIGIBILITY CRITERIA DETAILS

Details of the similar works completed (as per Para1.3.13 (i) of Preamble and General Instructions to Tenderers)

Similar Contract No.		
Contract Identification		
Award date		
Completion date		
Role in Contract	Prime Contractor ▪	Member in JV ▪
Total Contract Amount(Rs.)		
If member in a JV, specify participation in total Contract amount	<i>[insert a percentage amount]</i>	<i>Total contract amount in Rs.</i>
Employer's Name: Address: Telephone/fax number E- mail:		
Description of the similarity in accordance with Criteria 1.3.13(i)(A)		

The bidder shall attach certified completion certificates issued by the client duly attested by Notary as per Eligibility Criteria of the tender documents.

Signature of the
Tenderer with Seal



1. Bidder's Name-

- 1.1. Single Entity, Lead Partner or Partner *(strike whichever is not applicable)*-
- 1.2. In Case of Lead Partner , the Name of Bidder Entity- JV Participation (%)
- 1.3. In Case of First Partner, the Name of Bidder Entity- JV Participation (%)
- 1.4. In Case of Second Partner, the Name of Bidder Entity- JV Participation (%)

(In Case of 1.2,1.3 & 1.4 above, strike whichever is not applicable)

Sn	Description of Project of eligible work	Contract Agreement number & Date	Commencement Date &; Completion date	Contract Amount (in Crores of INR)	Role on the Project ;As Prime Contractor JV/Consortium Partner	In case of JV, specific % participation & Role in JV/Consortium]	Whether successfully completed	Contractual Payment received by the Claiming Bidder till -----2024 (in Crores of INR)	Document submitted in substantiation	Documents placed at Page no --- Of Bid

Bidder Averment

We, the Bidder, hereby declare that all the information & documents (in support) provided by us in this Form above, being premised upon original Experience Certificates (the copies of which have been supplied) are correct and authentic. We, the Bidder, are fully responsible for the correctness for the information & documents, submitted by us and we accept that any misinterpretation or misrepresentation, subsequently detected and so adjudged (by the Client), in this Form may lead to rejection of our bid coupled with further disqualification in future tenders.

<i>Signature on Claiming Bidder's round Stamp</i>	
<i>Name</i>	
<i>Designation</i>	
<i>Cell phone number</i>	
<i>E Mail ID</i>	



FINANCIAL ELIGIBILITY CRITERIA DETAILS

Bidder must fill in this form separately.

1. Bidder's Name-
- 1.1 Single Entity, Lead Partner or Partner (strike whichever is not applicable)-
- 1.2 In Case of Lead Partner, the Name of Bidder Entity- JV Participation (%)
- 1.3 In Case of First Partner, the Name of Bidder Entity- JV Participation (%)
- 1.4 In Case of Second Partner, the Name of Bidder Entity- JV Participation (%)

(In Case of 1.2, 1.3 & 1.4 above, strike whichever is not applicable)

Details of contractual payments received during the last three financial years and current financial year

Contractual payments received	
Year	Value of payment received in Rs. (Contract Receipts)
Current Year (2023-2024)	
2022-2023	
2021-2022	
2020-2021	
Total Contractual Payment	

Note –

1. The data in the above Form shall be certified by the Independent Chartered Accountant.
2. In Case of Bidder being, JV; Each Constituent Member (Lead Partner and each of respective Partners) shall be required to, separately, furnish data regarding 'Annual turnover' in this Form-2A; the accreditation of average annual turnover shall be to the extent of Respective member JV participation.
3. The details should be extracted from the audited balance sheet Certified by the Chartered Accountant or form 16-A issued by the Employer as per clause 1.3.13 of Preamble and General Instructions to Tenderers

Verified by Chartered Accountant	Full Signature on Claiming	
Signature on Stamp	Consultant's round Stamp	
Date of CA's signature	Signature in initials	
CA's Name	Name	
CA's UDIN	Designation	
CA's firm	Cell phone number	
CA/CA's Firm Address	E Mail ID	
CA's contact number		

The bidder shall attach necessary documents in support of the above.

Signature of the
Tenderer with Seal



APPLICANT'S PARTY INFORMATION FORM

Applicant name: <i>[insert full name]</i>
Applicant's Party name: <i>[insert full name of Applicant's Party]</i>
Applicant's Party country of registration: <i>[indicate country of registration]</i>
Applicant Party's year of constitution: <i>[indicate year of constitution]</i>
Applicant Party's legal address in country of constitution: <i>[insert street/number/town or city/country]</i>
Applicant Party's authorized representative information Name: <i>[insert full name]</i> Address: <i>[insert street/number/ town or city/country]</i> Telephone/Fax numbers: <i>[insert telephone/fax numbers, including country and city codes]</i> E-mail address: <i>[indicate e-mail address]</i>
1. Attached are copies of original documents of <input type="checkbox"/> Articles of Incorporation (or equivalent documents of constitution or association), and/or registration documents of the legal entity named above. <input type="checkbox"/> In case of a Government-owned enterprise or institution, documents establishing legal and financial autonomy, operation in accordance with commercial law, and absence of dependent status. 2. Included are the organizational chart, a list of Board of Directors, and the beneficial ownership.

Signature of the
Tenderer with Seal



SAMPLE

STANDING IN DEMNITY BOND FOR —ON ACCOUNT PAYMENTS

(On paper of requisite stamp value)

We, M/s _____ here by 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 / DFCCIL/Prayagraj (E) or his success or (herein after 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 Chief General Manager/DFCCIL/ Prayagraj (E) 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 Part IV, Chapter-II (Form - 4) to 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 here after becomes due to us under the said or any other Contract.

Dated this day _____ day of _____ 2023

for and on behalf of

M/s _____ (Contractor) Signature of witness

Name of witness in Block letter.

Address.



ECS / NEFT / RTGS MANDATE FORM

Date :-

To,

GM (F) / GGM (F)

DFCCIL, New Delhi.

Sub : ECS / NEFT / RTGS payments

We refer to the ECS / NEFT / RTGS set up by DFCCIL for remittance of our payments using RBI's NEFT / RTGS scheme, our payments may be made through the above scheme to our under noted account.

Name of Bank

Name of City

Bank Code No

Name of Bank Branch

Branch Code No

Address of Bank Branch

Telephone Number of Bank Branch

Fax No of Bank Branch

Name of customer / Tenderer as per account

Account Number of Tenderer appearing on cheque book

Type of Account (S. B. / Current / Cash credit)

IFSC code for NEFT

IFSC code for RTGS

9- Digit-code number of the bank and branch appearing on the MICR cheque issued by the bank. Details of Cancelled Cheque leaf Telephone no of tenderer Cell Phone Number of the tenderer to whom details with regard to the status of bill submitted to Accounts Office i.e Co6 & Co7 & Cheque Purchase Orders particulars can be intimated through SMS Tenderer's E - mail ID Confirmed by Bank signature of tenderer With stamp and address Enclose a copy of crossed cheque



DRAFT MEMORANDUM OF UNDERSTANDING (MOU) For JOINT VENTURE PARTICIPATION

BETWEEN

M/s having its registered office at (hereinafter referred to as) acting as the Lead Partner of the first part,

and

M/shaving its registered office at.....(hereinafter referred to as “ ”) in the capacity of a Joint Partner of the other part.

and

M/shaving its registered office at (hereinafter referred to as “ ”) in the capacity of a Joint Partner of the other part.

The expressions of and shall wherever the context admits, mean and include their respective legal representatives, successors-in-interest and assigns and shall collectively be referred to as “the Parties” and individually as “ the Party”

WHEREAS:

Dedicated Freight Corridor Corporation of India Limited (DFCCIL) [hereinafter referred to as “Client”] has invited bids for ... “[Insert name of work]...”

NOW, THEREFORE, THE PARTIES AGREE AS FOLLOWS:

1. The following documents shall be deemed to form and be read and construed as an integral part of this MOU.
 - (i) Notice for Bid, and
 - (ii) Bidding document
 - (iii) Any Amendment [Addendum/Corrigendum] issued by Dedicated Freight Corridor Corporation of India Limited
 - (iv) The bid submitted on our behalf jointly by the Lead Partner.
2. The `Parties` have studied the documents and have agreed to participate in submitting a `bid` jointly.
3. M/s shall be the lead member of the JV for all intents and purpose and shall represent the Joint Venture in its dealing with the Client. For the purpose of submission of bid proposals, the parties agree to nominate as the leader duly authorized to sign and submit all documents and subsequent clarifications, if any, to the Client. However M/s shall not submit any such proposals, clarifications or commitments before securing the written clearance of the other partner which shall be expeditiously given by M/s.....to M/s.....



4. The `Parties` have resolved that the distribution of responsibilities and their proportionate share in the Joint Venture is as under:

- a. Lead Partner;
 - (i)
 - (ii)
 - (iii)

- b. Joint Venture Partner
 - (i)
 - (ii)
 - (iii)

[Similar details to be given for each partner]

5. JOINT AND SEVERAL RESPONSIBILITY

The Parties undertake that they shall be jointly and severally liable to the Client in the discharge of all the obligations and liabilities as per the contract with the Client and for the performance of contract awarded to their JV.

6. ASSIGNMENT AND THIRD PARTIES

The parties shall co-operate throughout the entire period of this MOU on the basis of exclusivity and neither of the Parties shall make arrangement or enter into agreement either directly or indirectly with any other party or group of parties on matters relating to the Project except with prior written consent of the other party.

7. EXECUTIVE AUTHORITY

The said Joint Venture through its authorized representative shall receive instructions, payments from the Client. The management structure for the project shall be prepared by mutual consultations to enable completion of project to quality requirements within permitted cost and time.

8. EARNEST MONEY (BID SECURITY)

Till the award of the work, JV firm/Lead Partner of JV firm shall furnish Earnest Money (Bid Security) to the Client on behalf of the joint venture which shall be legally binding on all the members of the Joint Venture.



9. BID SUBMISSION

Each Party shall bear its own cost and expenses for preparation and submission of the bid and all costs until conclusion of a contract with the Client for the Project. Common expenses shall be shared by all the parties in the ratio of their actual participation.

10. INDEMNITY

Each party hereto agrees to indemnify the other party against its respective parts in case of breach/default of the respective party of the contract works of any liabilities sustained by the Joint Venture.

11. For the execution of the respective portions of works, the parties shall make their own arrangements to bring the required finance, plants and equipment, materials, manpowered the sources.

12. DOCUMENTS & CONFIDENTIALITY

Each Party shall maintain in confidence and not use for any purpose related to the Project all commercial and technical information received or generated in the course of preparation and submission of the bid.

13. ARBITRATION

Any dispute, controversy or claim arising out of or relating to this agreement shall be settled in the first instance amicably between the parties. If an amicable settlement cannot be reached as above, it will be settled by arbitration in accordance with the Indian Arbitration and Conciliation Act 1996 or any amendments thereof. The venue of the arbitration shall be Delhi.

14. VALIDITY

This Agreement shall remain in force till the occurrence of the earliest to occur of the following, unless by mutual consent, the Parties agree in writing to extend the validity for a further period.

- a. The bid submitted by the Joint Venture is declared unsuccessful, or
- b. Cancellation/ shelving of the Project by the client for any reasons prior to award of work
- c. Execution of detailed JV agreement by the parties, setting out detailed terms after award of work by the Client.

15. This MOU is drawn in number of copies with equal legal strength and status. One copy is held by M/s and the other by M/s.....&M/s and a copy submitted with the proposal.

16. This MOU shall be construed under the laws of India.



17. NOTICES

Notices shall be given in writing by fax confirmed by registered mail or commercial courier to the following fax numbers and addresses:

Lead Partner

Other Partner(s)

.....

.....

(Name & Address)

(Name & Address)

IN WITNESS WHEREOF THE PARTIES, have executed this MOU the day, month and year first before written.

M/s.....

.....

(Seal) Witness

1 (Name & Address)

2 (Name & Address)

Notes: (1) In case of existing joint venture, the certified copy of JV Agreement may be finished



DRAFT FORMAT OF JOINT VENTURE AGREEMENT

To be executed on non-judicial stamp paper of appropriate value in accordance with relevant Stamp Act and to be registered with appropriate authority under Registration Act. The JV agreement shall be structured generally as per contents list given below:

A. CONDITIONS AND TERMS OF JV AGREEMENT

1. Definitions and Interpretation
2. Joint Venture – Include Equity of members, transferability of shareholding of equity of a partner leaving during the subsistence of the contract.
3. Proposal Submission
4. Performance – To indicate scope of responsibility of each member
5. Language and Law
6. Exclusively
7. Executive Authority
8. Documents
9. Personnel
10. Assignment and Third Parties
11. Severability
12. Member in Default
13. Duration of the Agreement
 1. Liability and sharing of risks
 1. Insurance
 2. Sharing of Promotion and Project Costs, Profits, Losses and Remuneration
 3. Financial Administration and Accounting
 4. Guarantees and Bonds
 5. Arbitration
 6. Notices
 7. Sole Agreement and Variation

B. SCHEDULES

1. Project and Agreement Particulars
2. Financial Administration Services
3. Allocation of the obligations
4. Financial Policy and Remuneration



PROFORMA LETTER OF PARTICIPATION FROM EACH PARTNER OF JOINT VENTURE (JV)

(To be executed on non-judicial stamp paper of appropriate value in accordance with relevant Stamp Act and to be registered with appropriate authority under Registration Act.)

No....

Dated

From:

.....

To,

CGM/ GM Co-ord

Dedicated Freight Corridor Corporation of India Limited

Address

Sir,

Re: ..."[Insert name of work].....".

Ref: Your notice for Invitation for Bid (IFB) No.....
.....dated.....

1. We wish to confirm that our company/firm has formed a Joint Venture with (i)... & ii)..... for the purposes associated with IFB referred to above.

(Members who are not the lead partner of the JV should add the following paragraph)*.

2. „The JV is led by... whom we hereby authorize to act on our behalf for the purposes of submission of Bid for... and authorize to in cur liabilities and receive instructions for and on behalf of any and all the partners or constituents of the Joint Venture.“



OR

*(Member(s) being the lead member of the group should add the following paragraph)**

2. „In this group we act as leader and, for the purposes of applying for Bid, represent the Joint Venture:

3.In the event of our JV being awarded the contract, we agree to be jointly with i) &

ii) (names of other members of our JV) and severally liable to the Dedicated Freight

Corridor Corporation of India Limited, its successors and assigns for all obligations, duties and responsibilities arising from or imposed by the contract subsequently entered into between Dedicated Freight Corridor Corporation of India Limited and our JV.

4. *I/We, further agree that entire execution of the contract shall be carried out exclusively through the lead partner.

Yours faithfully, (Signature)

(Name of Signatory).....

(Capacity of Signatory).....

Company Seal * Delete as applicable

Note: In case of existing joint venture, the certified copy of JV Agreement may be furnished.



FORMAT FOR POWER OF ATTORNEY FOR AUTHORISED SIGNATORY OF JOINT VENTURE (JV) PARTNERS

POWER OF ATTORNEY*

(To be executed on non-judicial stamp paper of the appropriate value in accordance with relevant stamp Act. The stamp paper to be in the name of the company who is issuing the power of Attorney)

Know all men by these presents, we ... do hereby constitute, appoint and authorize Mr./Ms. who is presently employed with us and holding the position ofas our attorney, to do in our name and on our behalf, all such acts, deeds and things necessary in connection with or incidental to our bid for the work of ... [Name of Work] including signing and submission of all documents and providing information / responses to Dedicated Freight Corridor Corporation of India Limited, representing us in all matters, dealing with Dedicated Freight Corridor Corporation of India Limited in all matters in connection with our bid for the said project.

We here by agree to ratify all acts, deed sand things lawfully done by our said attorney pursuant to this Power of Attorney and that all acts, deeds and things done by our aforesaid attorney shall and shall always be deemed to have been done by us.

Dated this the.....day of.....

(Signature of authorised Signatory)

Signature of Lead Partner

Signature of JV Partner(s)

.....
(Signature and Name in Block letters of Signatory) Seal of Company



Tender No: EDFC/PRYJ/E/EN/RR/2024/01

Witness

Witness1: Name:

Witness2: Name:

Address:

Address: Occupation:

Occupation:

**Notes:*

- i) To be executed by all the partners jointly, in case of a Joint Venture.



**FORMAT FOR POWER OF ATTORNEY TO LEADPARTNER OF
JOINT VENTURE (JV)**

***(To be executed on non-judicial stamp paper of the appropriate value in
accordance with relevant stamp Act. The stamp paper to be in the name of the
company who is issuing the power of Attorney)***

POWER OF ATTORNEY*

Whereas Dedicated Freight Corridor Corporation of India Limited has invited Bids for the work of

.....[Name of Work]

Whereas, the members of the Joint Venture comprising of M/s....., M/s....., M/s.

....., and M/s..... are interested in submission of bid for the work of...*[Insert name of work]* in accordance with the terms and conditions contained in the bidding documents.

Whereas, it is necessary for the members of the Joint Venture to designate one of them as the Lead Partner, with all necessary power and authority to do, for and on behalf of the Joint Venture, all acts, deeds and things as may be necessary in connection with the Joint Venture's bid for the project, as may be necessary in connection the Joint Venture's bid for the project.

NOW THIS POWER OF ATTORNEY WITNESSETH THAT:

We, M/s....., hereby designate M/s....., being one of the partners of the Joint Venture, as the lead partner of the Joint Venture, to do on behalf of the Joint Venture, all or any of the acts, deeds or things necessary or incidental to the Joint Venture's bid for the contract, including submission of bid, participating in conferences, responding to queries, submission of information/document sand generally to represent the Joint Venture in all its dealings with the Railways/DFCCIL or any other Government Agency or any person, in connection with the Bid/contract for the said work until culmination of the process of bidding till the contract agreement if successful, is entered



into with the Dedicated Freight Corridor Corporation of India Limited and thereafter till the expiry of the contract agreement.

**To be executed by all the members of the JV except the lead member.*

The mode of execution of the Power of Attorney should be in accordance with the procedure, if any, laid down by the applicable law and the charter documents of the executants (s) and when it is so required the same should be under common seal affixed in accordance with the required procedure.

We hereby agree to ratify all acts, deeds and things lawfully one by lead member, our said attorney, pursuant to this power of attorney and that all acts deeds and things done by our aforesaid attorney shall and shall always be deemed to have been done by us/Joint Venture.

Dated this the..... Day of 2023

.....

(Signature)

.....

(Name in Block letters of

Executants) Seal of Company

Witness 1	
Name:	
Address:	
Occupation:	
Witness 2	
Name:	
Address:	
Occupation:	



PRE CONTRACT INTEGRITY PACT

General

This pre-bid pre-contract Agreement (hereinafter called the Integrity Pact) is made on----

---day of the month of----- 20xx, 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 [A] is willing to Offer/has offered for stores or works.

WHEREAS the [A] 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.

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 [B] 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. The CLIENT undertakes that no official of the CLIENT, connected directly or indirectly with the [B], 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 the [A] either for themselves or for any person, organization or third party related to the [B], in exchange for an advantage in the bidding process, bid evaluation, contracting or implementation process related to the [B].

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 [A] 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 [A] 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 [B] process. In such a case while an enquiry is being conducted by the CLIENT the proceedings under the [B] would not be stalled.

Commitments of BIDDERS

3. The [A] 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 [B] contract or in furtherance to secure it and in particular commit itself to the following:-

3.1 The [A] 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[B].

3.2 The [A] 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 [B] or any other [B] with the Government for showing or forbearing to show favour or disfavor to any person in relation to the [B] or any other [B] with the Government.

3.3 * [A] shall disclose the name and address of agents and representatives and Indian [A] shall disclose their foreign principals or associates.

3.4 * [A] shall disclose the payments to be made by them to agents/brokers or any other intermediary, in connection with this bid/contract.

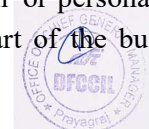
3.5 The [A] further confirms and declares to the CLIENT that the [A] is the original manufacturer/integrator/authorized government sponsored export entity of the defense stores and has not engaged any individual or firm or company whether Indian or foreign to intercede, facilitate or in any way to recommend to the CLIENT or any of its functionaries, whether officially or unofficially to the award of the [B] to the [A] 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 [A] either while presenting the bid or during pre-contract negotiations or before signing the [B] 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 [B] and the details of services agreed upon for such payments.

3.7 The [A] will not collude with other parties interested in the [B] to impair the transparency, fairness and progress of the bidding process, bid evaluation, contracting and implementation of the [B].

3.8 The [A] will not accept any advantage in exchange for any corrupt practice, unfair means and illegal activities.

3.9 The [A] 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 [A] also undertakes to exercise due and adequate care lest any such information is divulged.

3.10 The [A] commits to refrain from giving any complaint directly or through any other manner without Supporting it with full and verifiable facts.

3.11 The [A] shall not instigate or cause to instigate any third person to commit any of the actions mentioned above.

3.12 If the, [A] or any employee of the [A] or any person acting on behalf of the [A], 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 [A] 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 [A] 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 [A] 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 BIDDERS from the tender process.

4.2 The [A] agrees that if it makes incorrect statement on this subject, [A] 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 The Earnest money/ Bid Security/ Security Deposit/ Retention money/ Performance guarantee shall be as per the provisions of Bid document.

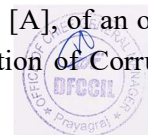
6. Sanctions for Violations



6.1 Any breach of the aforesaid provisions by the [A] or any one employed by it or acting on its behalf (whether with or without the knowledge of the [A]) 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 [B] is signed) shall stand forfeited fully and the CLIENT shall not be required to assign any reason therefore.
- (iii) To immediately cancel the [B], 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 [A] from the country other than India with interest thereon at 2% higher than the LIBOR. If any outstanding payment is due to [A] from the CLIENT in connection with any other [B], 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 [A]. The [A] shall be liable to pay compensation 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 [A].
- (vii) To debar the [A] 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 [A]) to any middleman or agent or broker with a view to securing [B] the contract.
- (ix) In cases where irrevocable letters of credit have been received in respect of any [B] signed by the client with the [A], 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 [A] 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 statute enacted 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 [A] shall be final and conclusive on the [A]. However, the [A] can approach the Independent Monitor(s) appointed for the purposes of this Pact.

7. Fall Clause

7.1 The [A] 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 systems way supplied by [A] 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 [A] to the CLIENT, if the [B] 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

8.6 The BIDDER(s) accepts that the Monitor has the right to access without restriction to all Project documentation of the CLIENT including that provided by the BIDDER. The [A] 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 under contractual obligation to treat the information and documents of the [A] with confidentiality.

8.7 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.

8.8 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 [A] and the [A] shall provide necessary information and documents in English and shall extend 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 upto 5 years or the complete execution of the [B] to the satisfaction of both the CLIENT and the [A] including warranty period, whichever is later. In case [A] is unsuccessful, this integrity pact shall expire after six months from the date of the signing of the [B].

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

BIDDER

Name of the officer
OFFICER Designation
Deptt./Ministry/PSU

CHIEF EXECUTIVE

Witness

witness

1.
.....

2.

Note:

[A]- To be replaced by BIDDER/Seller/Consultant/Consultancy firm/Service provider as the case was may be

[B]- To be replaced by contract/supply contract/consultancy contract/works contract as the case was may be.



Declaration of Site Investigation

Name of Work -

Tender No:-

We, (Name of contractor.....) have examined the site and scope of work for above subject cited work and tender no referred above.

And accordingly, the rates quoted by us are including all incidental works may occur during the course of executing of subject cited work

Signature of the Tenderer with Seal



**FORMAT FOR AFFIDEVIT TO BE UPLOADED BY TENDERER
ALONG WITH THE TENDER DOCUMENT**

(To be executed in presence of Public notary on non-judicial stamp paper of the value of Rs. 100/- The stamp paper has to be in the name of the tenderer)** Tender Notice No.....

Name of Work:.....

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 document from the 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 of final payment of the contract, the master copy available with the DFCCIL shall be final and binding up 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 document/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 for 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 five year on entire DFCCIL. Further, I/we

(insert name of the tenderer)**..... and all my/our constituents understand that my/our offer shall be summarily rejected.

8. I/we also understand that if the certificates submitted by us 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 provided in the contract including banning of business for five year on entire DFCCIL.

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

DEPONENT
SEAL AND SIGNATURE
OF THE TENDERER
VERIFICATION

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

DEPONENT
SEAL AND SIGNATURE
OF THE TENDERER

Place:

Dated:

**The contents in Italics are only for guidance purpose. Details as appropriate, are to be filled in suitably by tenderer. Attestation before Magistrate/Notary Public



Form-23

Format for Competency Certificate

Certified that Shri _____ found satisfactory and he is capable of supervising the work safely.

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

Signature and designation of the officer



The End of Schedule

