



Tender No. CGM/DFCCIL/NOIDA UNIT/CONSTRUCTION OF HEAVY HAUL RESEARCH INSTITUTE (HHRI)/2019/03

For

CONSTRUCTION OF HEAVY HAUL RESEARCH INSTITUTE (HHRI) COMPRISING OF ADMINISTRATIVE & HOSTEL BLOCK AND GENERAL LAB INCLUDING RELATED ALLIED FACILITIES AT SECTOR-145, NOIDA

**E-TENDER DOCUMENT
TECHNICAL BID
(PACKET-A)**

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

**Under
MINISTRY OF RAILWAYS**

NOIDA OFFICE: -

Chief General Manager/Noida/DFCCIL
D-89, 1st Floor, Sector-2, Noida- 201301

CORPORATE OFFICE: -

DFCCIL, 5th Floor, Pragati Maidan, Metro Station Building Complex,
New Delhi-110001

INDEX

PART/CHAPTERS	DESCRIPTION	PAGE NO.
PART - I		4-141
Chapter I	Check list of documents to be uploaded in the E-Tender	4-6
Chapter II	Notice Inviting E-Tender	7-12
Chapter III	Preamble and General Instructions to Tenderers	13-32
Chapter IV	General Conditions of Contract	33-82
Chapter V	Special Conditions of Contract	83-141
	Section-1 Special Conditions	84-94
	Section-2 Additional Special Conditions	95-112
	Section-3 Additional Conditions for Cement & Steel	113-116
	Section-4 Methodologies for Green Buildings	117-118
	Section-5 Conditions of Contract Specific to Green Building Practices	119-130
	Section-6 Minimum Quality Assurance Plan (Civil Works) (MQAP)	131-141
PART - II	Technical Specifications (Civil Works)	142-143
PART - III		144-298
Chapter I	Milestones and Time Schedule	145-146
Chapter II	Tender Forms	147-298
	FORM No. SUBJECT	
	Form No. 1A Offer Letter	150-151
	Form No. 1B Structure & Organisation	152
	Form No. 2 Tenderer's Credentials	153
	Form No. 2A Technical Eligibility Criteria Details	154
	Form No. 2B Financial Eligibility Criteria Details	155
	Form No. 2C Applicant's Party Information Form	156-157
	Form No. 3 Summary of Prices	158
	Form No. 4 Schedule of Prices and Total Prices	159-255
	Form No. 5 Contract Agreement	256-257
	Form No. 6 Format of Bank Guarantee for performance security	258-260
	Form No. 7 Indemnity Bond	261
	Form No. 8 ECS / NEFT / RTGS mandate form	262
	Form No. 9 Draft MOU for Joint Venture Participation	263-266
	Form No.10 Draft Format of JV	267-268
	Form No.11 Pro-forma of Participation from each partner of JV	269-270

	Form No.12	Format for Power of Attorney for authorized signatory of JV Partners	271-272
	Form No.13	Format for Power of Attorney to lead partner of JV	273-274
	Form No. 14	Proforma for Time Extension	275
	Form No. 15	Certificate of Fitness	276
	Form No. 16	Proforma of 7 days Notice	277
	Form No. 17	Proforma of 48 Hours Notice	278
	Form No. 18	Proforma of Termination Notice	279
	Form No. 19	Format of Bank Guarantee for Mobilisation advance	280-282
	Form No. 20	Pre-Contract Integrity pact	283-290
	Form No. 21	Format of Bank Guarantee for Security Deposit	291-293
	Form No. 22	Format for Power of Attorney for Authorized representative	294-295
	Form No. 23	No deviation Certificate	296
	Form No.24	GUARANTEE BOND for water proofing works/Anti Termite Treatment works	297-298
PART-IV	Drawings		299
	Site plan		Annexure-I
	Admin View		
	Floor Plans (Admin Block)		
	Elevations (Admin Block)		
	Combined Section & Elevation (Admin & Hostel Block)		Annexure-II
	Ground & First Floor Plumbing Plans (Admin Block)		
	Second, Third & Terrace Plumbing Plans (Admin Block)		
	Water Supply Schematic Diagram (Admin Block)		
	Typical Toilet Detail, Drainage & Water Supply System (Admin Block)		Annexure-III
	Ground & First Floor Fire Fighting Plans (Admin Block)		
	Second, Third & Terr. Floor Fire Fighting Plans (Admin Block)		
	Fire Fighting Schematic Diagram (Ground to Third Floor) (Admin Block)		Annexure-IV
	Hostel Block		
	Floor Plans (Hostel Block)		
	Elevation & Section (Hostel Block)		Annexure-V
	Ground & Typical First to Fourth Floor Plumbing Plans (Hostel Block)		
	Fifth & Terrace Floor Plumbing Plans (Hostel Block)		
	Water Supply Schematic Diagram (Hostel Block)		Annexure-VI
	Ground Floor Toilet Detail Water Supply System (Hostel Block)		
	Typical Toilet Detail Water Supply System (Hostel Block)		

	Typical First to Fourth & Fifth Floor Fire Fighting Plans (Hostel Block)	Annexure-VII
	Ground & Terrace Floor Fire Fighting Plans (Hostel Block)	
	Fire Fighting Schematic Diagram (Ground to Fifth Floor) (Hostel Block)	
	General Lab	
	General Lab Floor Plans, Elevations & Sections	Annexure-VIII
	Plumbing Plans (General Lab)	
	Fire Fighting Plans (General Lab)	
	Plantation Plans	
	Road Section Details – 1	Annexure-IX
	Toe Wall Details	
	External Services	Annexure-X
	Drainage Layout	
	Sewarage Layout	Annexure-XI
	Water Supply Layout	
	Garden Hydrant Layout	
	External Fire Hydrant Layout	Annexure-XII
	Typical Rain Water Recharge Detail	

PART-I

CHAPTER-I

CHECK LIST OF DOCUMENTS TO BE UPLOADED IN E-TENDER

PART-I
CHAPTER-I
CHECK LIST

Check List of items/documents pertaining to Bid to be uploaded by the bidder in E-Tender portal on or before the last Date & Time of Bid Submission	
Item No.	Items
Technical Bid (Packet-A)	
1	EMD of Rs. 50,00,000/- (<i>Rupees Fifty Lakh Only</i>) is to be paid in the form of Demand Draft or Banker's Cheque or FDR made in favor of DFCCIL payable at Delhi/Noida from any Nationalized or Indian Scheduled Commercial Bank on or before schedule date & time of submission of bid. The proof of submission of EMD should also be uploaded / attached along with Bid/offer document.
2	Cost of Bid Document of Rs. 11,800/- (<i>Rupees Eleven Thousand & Eight Hundred Only</i>) is to be paid in the form of Demand Draft or Banker's Cheque made in favor of DFCCIL payable at Delhi/Noida from any Nationalized or Indian Scheduled Commercial Bank on or before schedule date & time of submission of bid. The proof of submission of Cost of Bid Document should also be uploaded/attached along with Bid/offer document.
3	An offer letter/declaration from the person having PoA (<i>Power of Attorney</i>) on the Letter Head of the Applicant/Bidder that they agree and abide by the bid documents and amendments thereof (<i>if any</i>) and would execute the work accordingly. (Form No. 1A).
4	Structure & Organisation details (Form No. 1B)
5	Power of Attorney of the person authorized for signing/submitting the Tender (Form No. 22).
6	If applicable, the Power of Attorney for authorized signatory of JV partners and for Lead Member of JV (Form No. 12 & 13 resp.)
7	Copy of Memorandum and Articles of Association, if the applicant/bidder is a body corporate, and if a partnership firm then, a copy of its partnership deed or documentary evidence in support of proprietorship in case of Sole Proprietor firm.
8	Integrity Pact duly signed by the bidder (Form No.20). The bidders are required to download the Integrity Pact as uploaded on the tender document & sign the same put rubber stamp seal and upload the signed copy on E-Tendering website.
9	Submission of Tenderer's Credentials in accordance with Para-1.3.13 (i) & (ii) of Preamble & General Instructions to Tenderer in prescribed forms. (Form No.2A, 2B & 2C)
10	If applicable, Joint Venture agreement (Form No.10)
11	Letter of participation from each partner of Joint Venture (JV)– (Form No. 11)

12	Memorandum of Understanding (in case of JV) as per bid document. (Form No.9)
13	Valid GST registration/EPF registration/PAN No.
14	No Deviation Certificate (Form No. 23).
15	The entire Tender document should first be downloaded & then, upload the same through digital signature by the Authorized signatory of the bidder.
16	All pages of all the Corrigendum/Addendum/Clarification (<i>if any</i>) should first be downloaded then, upload the same through digital signature by the Authorized signatory of the bidder.
Financial Bid (Packet-B)	
17	Financial Bid (<i>Microsoft Excel file</i>) to be filled, saved and uploaded in E-Tender Portal.

Note: All the uploaded documents should be in readable, printable & legible form.

IMPORTANT NOTES:

- i. **Document mentioned at S.no. 1 to 14** above of the Check list [*Technical Bid (Packet-A)*] should be scanned and uploaded at website in '**Document Library**' of the E-Tender Portal (www.tenderwizard.com/DFCCIL) through digital signature and after that, attach all above documents in particular tender.
- ii. Similarly, the **document mentioned at S.No. 15 & 16** of the Check list [*Technical Bid (Packet-A)*] should first be downloaded from E-Tender Portal (*in PDF Format*) and thereafter upload them to E-Tender Portal, through digital signature in document library & after that, attach the same in particular tender.
- iii. **For Document No. 17** of the Check list [*Financial Bid (Packet-B)*], only the downloaded 'Financial Bid' file should be uploaded after filling, saving and digitally signed. **Do not upload scanned copy of 'Financial Bid' in 'Document Library'**. The financial bid (*after filling the rates*) should neither be scanned & uploaded, nor, the hard copy of the same should be submitted to the office of CGM/DFCCIL/Noida.

PART-I

CHAPTER-II

NOTICE INVITING E-TENDER

PART – I

Chapter II

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

Tender No: CGM/DFCCIL/NOIDA UNIT/CONSTRUCTION OF HEAVY HAUL RESEARCH INSTITUTE (HHRI)/2019/03 dated: 26-06-2019.

NOTICE INVITING E-TENDER **National Competitive Bidding**

Dear Sirs,

Name of Work: Construction of Heavy Haul Research Institute (HHRI) comprising of Administrative & Hostel Block and General Lab including related allied facilities at Sector-145, Noida.

- 1.2.1 Chief General Manager/Noida, Dedicated Freight Corridor Corporation of India Limited, D-89, 1st Floor, Sector-2, Noida-201301, India, invites **E-Tenders** in **single stage two packet system** on prescribed forms from firms / Companies / Joint Ventures and meeting requisite experience and financial capacity for execution of the following work:

Tender No.	CGM/DFCCIL/NOIDA UNIT/CONSTRUCTION OF HEAVY HAUL RESEARCH INSTITUTE (HHRI)/2019/03
Name of Work	Construction of Heavy Haul Research Institute (HHRI) comprising of Administrative & Hostel Block and General Lab including related allied facilities at Sector-145, Noida.
Employer/Client/Owner	Dedicated Freight Corridor Corporation of India Ltd. (DFCCIL), A Govt. of India (Ministry of Railways) Enterprises through Chief General Manager/Noida, D-89, 1 st Floor, Sector-2, Noida-201301.
Type of Tender	Open E-Tender (Single stage two packet system)
Type of Contract	Works Contract
Estimated Cost	Rs. 35,62,08,040 /- + GST (extra)
Period of Contract	18 Months
Defect liability period	12 Months from the date of issue of completion certificate of the work by the DFCCIL as per Special Condition of Contract clause no. 5.8.
Earnest Money Deposit	Rs 50,00,000/- (Rupees Fifty Lakhs Only) to be submitted in the form of Demand Draft (DD) or Bankers Cheque or FDR in favour of DFCCIL payable at Delhi/Noida from any Nationalized or Indian Scheduled Commercial Bank.

Cost of Tender Document (Non-Refundable)	Rs. 11,800/- (Rs. 10,000/-+GST @ 18%) (Rs. Eleven Thousand & Eight Hundred only) to be submitted in the form of Demand Draft (DD) or Bankers Cheque in favour of DFCCIL payable at Delhi/Noida from any Nationalized or Indian Scheduled Commercial Bank.
Tender processing fee (Non-Refundable)	Rs. 7500/- + 18% GST to be paid to M/s ITI Ltd. directly online through E-Tender website.
Validity of Offer	120 days
Retention Money	5% of Contract value (as per Clause No. 16 of GCC)
Performance Bank Guarantee	Performance Guarantee (PG) has to be submitted within 30 (thirty) days from the date of issue of Letter of Acceptance (LOA), amounting to 5% of the contract value in the form as given in clause 16.4 of GCC.
E-tendering website	www.tenderwizard.com/DFCCIL For any help in connection with E-Tendering, please contact at www.tenderwizard.com Helpdesk No: 011-49424365 or Mob: 9599653865.
Date & Time Schedule	
Date of uploading of NIT (Online)	On Date 01.07.2019
Date of document download/Sale (Online)	From Date 02.07.2019
Pre-Bid meeting with the prospective bidders	12.07.2019 at 11:00 Hrs.
Issue of Corrigendum, if any	On or before three days from date of submission of Tender (on www.tenderwizard.com/DFCCIL)
Date & Time of Submission of Tender	On or before 02.08.2019 and time upto 15:00 hrs
Last date & time of submission of EMD & tender document cost	On or before 02.08.2019 upto 15:00 hrs in the office of Chief General Manager/DFCCIL/Noida Unit: Address: D-89, First Floor, Sector-2, Noida-201301 (U.P.)
Date & Time of Opening of Technical Bid (Online)	On date 02.08.2019 and time 15:30 hrs
Date & Time of opening of Financial Bid (online)	To be communicated later to only those bidders who are found technically qualified after closure of Technical Evaluation.
Representative/ Contact Person of DFCCIL/Noida Unit	Shri Madhup Kumar Upadhayay Dy. Project Manager/Civil-I Dedicated Freight Corridor Corporation of India Ltd. (Noida Unit) D-89, 1 st Floor, Sector-2, Noida- 201301 Mobile No: 8826818484 Telephone: 0120-2542889 E-MAIL ID: mkupadhayay@dfcc.co.in
Address for Pre-Bid meeting & opening of Tender	Chief General Manager Office Dedicated Freight Corridor Corporation of India Ltd. (Noida Unit) D-89, 1 st Floor, Sector-2, Noida- 201301 Mobile No: 8826818484 Telephone: 0120-2542889

- 1.2.2 Eligibility shall be assessed on applicants, fulfilling the technical capability and competence as well as for financial and organizational resources as specified below: in clause no. 1.3.13 (i) A & B of Preamble and General Instruction to tenders (Part - I, Chapter III).
- 1.2.3 Tender document can be viewed & downloaded from DFCCIL's website www.dfccil.gov.in, www.tenderwizard.com/DFCCIL & Central Procurement portal 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***.
- 1.2.4 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.tenderwizard.com/DFCCIL 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 website and ensure that such addendum(s) / corrigendum (s) (if any) is also downloaded by them. Such addendum(s) / corrigendum (s) (if any) shall also be uploaded along with the submission of tender. Any tender submitted without addendum(s) / corrigendum(s) (*if any*) is ***liable to be rejected***.
- 1.2.5 The tender documents shall be submitted in online mode only through website www.tenderwizard.com/DFCCIL in two packets only viz Packet-A containing TECHNICAL BID and Packet B containing FINANACIAL BID.

Bidder shall submit the **EMD & Tender documents cost** (*as mentioned in clause 1.3.8 & 1.3.4.3 of preamble & general instructions to tenderer, Part I, Chapter III*) on or before schedule date & time of submission of bid.

The proof of submission of EMD & Tender documents cost should also be uploaded/ attached along with Bid/offer document online.

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 www.tenderwizard.com/DFCCIL. The financial bid should be downloaded & then filled up, saved and uploaded on the E-tendering website using digital signature for signing the document.

- 1.2.6 To participate in the E-Bid submission, it is mandatory for the bidders to have user ID & password which has to be obtained by submitting an annual registration charges of INR 2000/- + GST @ 18% to M/s ITI through e-payment. Bidders have to pay the Tender Processing Fee to ITI through e-payment at the time of submission of bid. Already registered vendors with M/S ITI need not to pay registration charges.

Obtain Class-III Digital Signature Certificate from ITI Ltd. or any other digital signature issuing authority. In case, bidders wish to obtain the digital signature certificate from ITI Ltd., they may contact Mobile No. 09599653865 (*Mr. Suraj Singh*).

- 1.2.7 Tenders shall be opened at the address given below on scheduled date & time in the presence of the tenderers or their authorized representatives intending to attend the opening.

Address of Office of the Chief General Manager/ Noida (*for opening of tenders*): -
Chief General Manager/Noida, D-89, 1st Floor, Sector-2, Noida-201301, U.P.

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. The sequence of opening shall be:

- i) Earnest Money Deposit (*EMD*)
- ii) Technical offer.
- iii) Financial offer (*at a later stage after scrutiny & finalization of acceptable Technical Bid*)

Tender shall be submitted as per “General Instructions to Tenderers” forming as part of the complete tender documents.

- 1.2.8 Any tender received without Earnest money and cost of tender documents in the form as specified in the tender documents shall ***not be considered*** and shall be ***summarily rejected***.
- 1.2.9 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.
- 1.2.10 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. EMD of such tenderers shall be **forfeited** & the decision of DFCCIL in this regard shall be final and binding.
- 1.2.11 DFCCIL reserves the right to pre-qualify the bidder(s) provisionally based on the documents submitted by them in technical bid. Financial bids of only those bidders would be opened, whose technical offers are found acceptable. In the event of any document being found false (*at a later stage*), the provisional qualification shall stand withdrawn, and the next lower bidder shall automatically come to the position of such disqualified bidder. Also, action against such disqualified tenderer shall be taken as per above Clause No. 1.1.11 of Notice Inviting Tender.
- 1.2.12 Information as required as per various Forms to tender document should be submitted by the tenderers without fail strictly as per formats.
- 1.2.13 The validity of offer shall be 120 days from the date of opening of the tender.
- 1.2.14 Transfer of the tender document purchased by intending tenderer to another tenderer is not admissible.
- 1.2.15 Tenderers must read all instructions regarding e-tendering process as mentioned in PREAMBLE & GENERAL INSTRUCTION TO TENDERERS Part I, Chapter III.

1.2.16 Tenderers are advised to regularly visit the E-Tender Portal (www.tenderwizard.com/DFCCIL) for information regarding tender, corrigendum, addendum (if any) etc.

1.2.17 **Consortium** of any kind **will not be permitted** for this tender

1.2.18 The rates quoted by the contractor are deemed to be inclusive of site clearance, setting out work, profile, setting lay out on ground, establishment of reference bench mark(s), installing various signage, taking spot levels, survey with total station, construction of all safety and protection devices, compulsory use of helmet and safety shoes, and other appropriate safety gadgets by workers, imparting continuous training for all the workers, barriers, preparatory works, construction of clean, hygienic and well ventilated workers housings in sufficient numbers working during monsoon or odd season, working beyond normal hours, working at all depths, height, lead, lift, levels and location etc. and any other unforeseen but essential incidental works required to complete this work. **Nothing extra shall be payable** on this account and **no extension of time** for completion of work shall be granted on these accounts.

The rates quoted by the tenderer shall be inclusive of all taxes and levies but excluding GST. The GST as legally leviable and payable by the Bidder under the provisions of applicable law/act shall be paid extra by DFCCIL.

Therefore, the Bidders should quote their rates after considering the Input Tax Credits on their input materials and services. Hence, Bidders should ensure that, full benefit of Input Tax Credit (ITC) likely to be availed by them is duly considered while quoting their rates.

Price variation will be applicable as per the clause mentioned in GCC.

**Chief General Manager/Noida
For & on behalf of DFCCIL**

PART-I

CHAPTER-III

PREAMBLE & GENERAL INSTRUCTIONS TO TENDERERS

PART-I

Chapter- III

PREAMBLE & GENERAL INSTRUCTIONS TO TENDERERS

1.3.1 Introduction

(i) General

Ministry of Railways (MoR) established the Dedicated Freight Corridor Corporation of India Limited (DFCCIL), a Schedule “A” Public Sector Undertaking wholly owned by Ministry of Railways, Govt. of India to undertake planning & development, mobilization of financial resources, construction, maintenance and operation of the Dedicated Freight Corridor project. DFCCIL was incorporated as a company under the Companies Act 1956 on 30th October 2006.

This company is now actively engaged in the implementation of Computerized Multi Modal High Axle Load Dedicated Freight Corridor Project between Delhi-Mumbai under the Western DFC Corridor and Ludhiana-Delhi-Kolkata under the Eastern DFC Corridor.

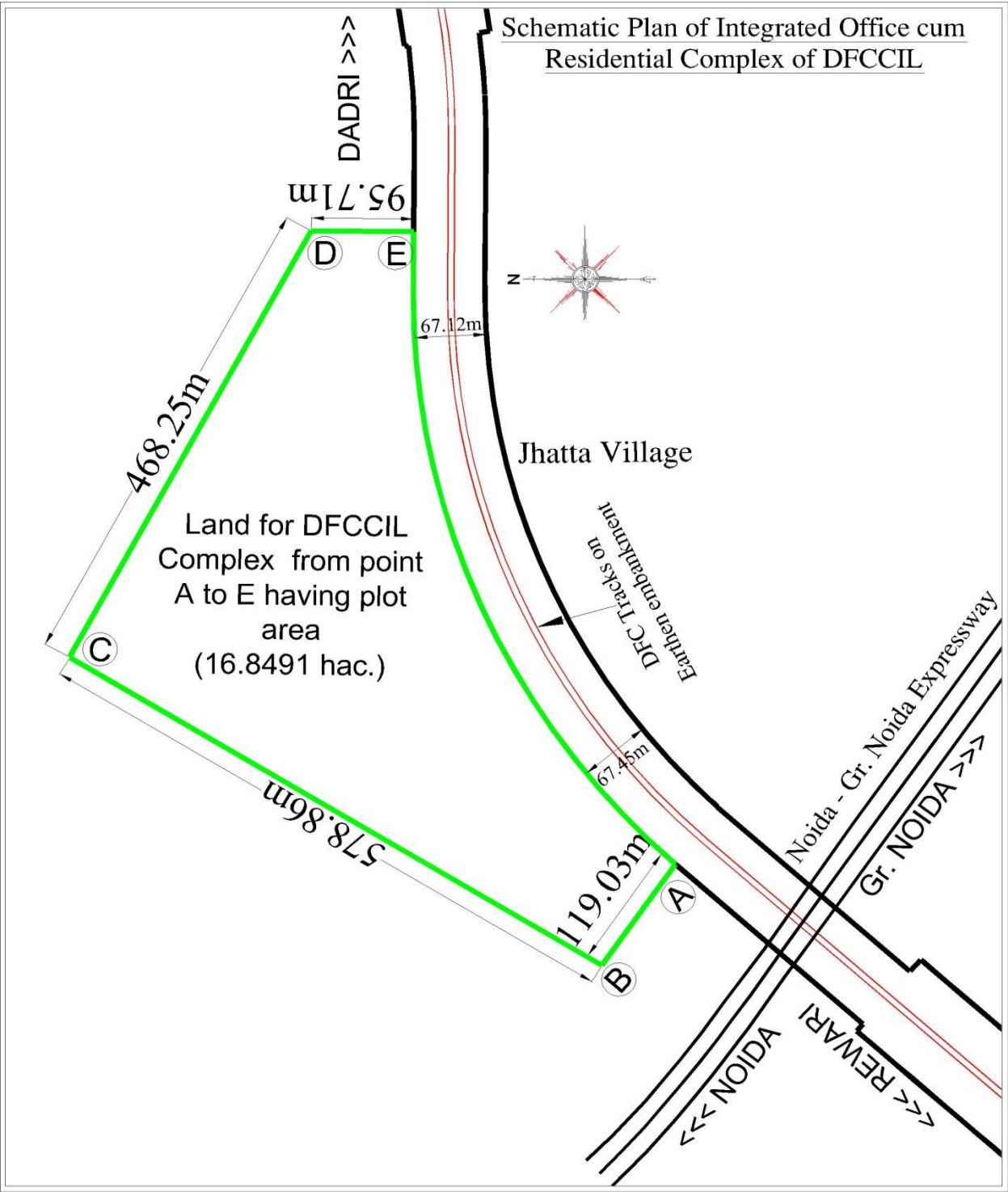
The DFC project will also restore the Indian Railway’s competitive strength in the freight transportation market and emerge as the ***major low carbon and energy efficient transport system in the country***. It will drive the establishment of industrial corridors and logistic parks along its alignment and play a crucial role in supporting India’s growing economy.

(ii) Project Concept

“Construction of Heavy Haul Research Institute (HHRI) comprising of Administrative & Hostel block and General Lab including related allied facilities” in the Project “DFCCIL Integrated Office Cum Residential Complex with Pre-Certified GRIHA 5 Star Rating in the National Capital Region at Noida-Greater Noida Expressway in village Jhatta, Sector-145, Noida.

DFCCIL management desired to build in phases a very vibrant and dynamic complex which should be self-contained and self- sustaining, with state of art physical, social and economic infrastructure. This complex ***would be developed on Green Building Concept*** and will be eco-friendly, energy efficient, modern and integrated with its inspiring existing landscapes.

(iii) PROJECT LOCATION:



(iv) PROJECT BACKGROUND & OVERVIEW:

1. DFCCIL is in possession of free hold land admeasuring 16.8491 hectares (approx. 40 Acres) at Noida-Greater Noida Expressway in village Jhatta, Noida. The schematic site plan is as shown above having exact location, adjacent features and boundaries of the land. DFCCIL is fully entitled to develop the said land. The land is almost flat and located in village Jhatta, G.B. Nagar (U.P).
2. On the western & southern side, the site is bounded by Noida-Greater Noida Expressway & Noida-Gr. Noida Metro Line and on the eastern site it is bounded by Hindon river, its bund & forest area. The DFCCIL site lies between two under construction Metro Stations of Noida-Greater Noida metro line being constructed by NMRC.
3. The plot enjoys excellent linkages with other parts of Noida & Greater Noida and is approachable by Noida-Greater Noida Expressway and is approx. 16 km from Mahamaya Flyover in Noida.

(v) General Instructions (for only 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 <http://www.tenderwizard/DFCCIL>. (refer in the *BID DOCUMENTS*)

Words in capital and not defined in this document shall have the same meaning as in “BID DOCUMENT”.

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.

To participate in the E-bid submission, it is mandatory for the Bidders to get themselves registered with the Tender Wizard and to have user ID & password which has to be obtained by submitting an annual registration charges of INR 2000/- + GST to M/s ITI Ltd.

The online payment facility for the submission of Registration fee and Tender Processing Fee, which is payable to E- Tender service provider i.e. M/s ITI Ltd., has been enabled on E-Tender portal <http://www.tenderwizard.com/DFCCIL>. The Bidder can now pay Registration Charges and Tender Processing Fee through E-Payment using Credit Card/ Debit Card / Net Banking / International Credit Card only.

If the Bidder has already registered with the Tender Wizard and validity of registration has not expired, then such Bidder does not require fresh registration. Validity of online registration is one year. Following may be noted:

- (a) Bids can be submitted only during the validity of registration with the Tender Wizard.
- (b) The amendments / clarifications to the BID DOCUMENTS, if any, will be posted on <http://www.tenderwizard.com/DFCCIL> only.
- (c) Registration with the tender wizard should be valid at least upto the date of submission of bid.

Rs 7,500/- + GST @ 18% is applicable towards Tender processing fee (*non-refundable*) and shall be paid to M/s ITI Ltd. towards Tender Processing Fee through E-Payment using Credit Card/ Debit Card / Net Banking / International Credit Card only.

To participate in bidding, Bidders have to pay a sum of Rs. 10,000/- + GST @ 18% i.e. Rs. 11,800/- (*Rs. Eleven Thousand & Eight Hundred Only*) as a cost of the BID DOCUMENT (*non-refundable*) as mentioned in clause 1.3.4.3 of preamble & general instructions to tenderer, Part I, Chapter III.

B) PREPARATION & SUBMISSION OF TENDER:

- a. Before quoting the rate and uploading the 'Financial Bid', bidders are advised to upload scanned copies of all the requisite documents (*Item No.1 to 14 mentioned in "Check List of Part-I Chapter-I" of the tender document*) in the document library of E-Tender Portal. Thereafter, attach all these documents in the particular Tender through E-Tender Portal.
- b. Similarly the bidders are required to download the tender document (*Item No.15 of the Check List of Part-I Chapter-I*) and Addendum/Corrigendum (*if any*) (*Item No.16 of the Check List of Part-I Chapter-I*) from the E-Tender Portal (*in PDF Format*) and upload the same through digital signature in the document library of the E-Tender Portal. Thereafter, attach all these documents in the particular Tender through E-Tender Portal.
- c. After uploading above documents in the document library and thereafter attaching the same in tender document, bidders should quote their rates in the downloaded 'Financial Bid' file (*Item No. 17 of the Check list of Part-I Chapter-I*) and save the file on their computer. After saving, the bidder can upload the duly filled in file at E-Tender Portal. The name of the downloaded 'Financial Bid' (*'Financialbid.xls'*) file should not be changed.
- d. However, EMD should be submitted to DFCCIL as mentioned at Clause-1.3.8 of preamble & general instructions to tenderer, Part I, Chapter III in the Tender Document.

C) Modification / Substitution/ Withdrawal of bids:

- (i) The Bidder may modify, substitute or withdraw its e- bid after submission, but prior to the Bid Due Date & time. No Bid shall be modified, substituted or withdrawn by the Applicant on or after the Bid Due Date & time.
- (ii) Any alteration/ modification in the Bid or additional information supplied subsequent to the Bid Due Date & time (*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 prior to bid due date & time.
- (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.

D) PRE-BID MEETING:

Bidders may request for a clarification on any Clause(s) of the Bid Document on or before the date of Pre-Bid meeting. Any request for clarification must be sent in writing, or by standard electronic means to DFCCIL. DFCCIL will respond with explanation of queries on E-Tender Portal (*including an explanation of the query but without disclosing the source of query*) only. If DFCCIL deem it necessary to amend the Bid Document as a result of clarification or any other reason, it shall do so.

At any time before the submission of tender, DFCCIL may modify/amend the bid document and extend the last date of submission/opening of the tender by issuing a corrigendum/addendum.

Any Corrigendum/Addendum thus issued shall form part of tender document and shall be posted only on Tender Wizard portal and the Bidders are thus advised to update their information by using said website www.tenderwizard.com/DFCCIL_ To give the Bidders reasonable time to take an amendment into account in their bids and on account of any other reasonable circumstances, DFCCIL may at its discretion, extend the deadline for the submission/opening of the tender.

A Pre-Bid meeting with the prospective Bidders will be conducted as per the scheduled date & time mentioned in the NIT. However, if any change occurs in date & time of the meeting then it would be communicated through Tender Wizard portal only.

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.***

The Authority shall open technical bid documents received in electronic form on the Bid due date in the presence of the Bidders who choose to attend. This Authority will subsequently examine and evaluate the Technical Bids in accordance with the provisions set out in the BID DOCUMENTS.

The Financial Bids will be opened only of the pre-qualified Bidders (*only after Technical evaluation*) & **the date of opening of Financial Bids will be notified later on.**

DISCLAIMER

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

(vi) Scope of Work

On behalf of President of India, Chief General Manager, Dedicated Freight Corridor Corporation of India Limited, D-89, 1st Floor, Sector-2, Noida-201301 India, herein after referred to as 'DFCCIL' is inviting e-tenders from Firms/ Companies/Joint Ventures having requisite experience and financial capacity for execution of the following work:

"Construction of Heavy Haul Research Institute (HHRI) Comprising of Administrative & Hostel Block and General Lab including related allied facilities at Noida."

HHRI has been planned & designed with modern building concepts including Green Building Parameters to achieve **GRIHA 5 Star Rating.**

The scope of work for present tender includes **Civil, Plumbing & Horticulture works.** The drawings for guidance have been enclosed in the tender document. The brief scope of work is given below.

All the Buildings are RCC Framed Structure with tentative Built-Up area of 9710 Sqmt. The detail of each building is as follows:

S.No.	Name of Building	No. of Stories	Built-up area(sqmt)
1	General Lab & Workshop	Ground	1980
2	Admin Block	G+3	3541
3	Hostel Block	G+5	4189
		Total	9710 sqmt

The brief scope of work comprises of the following:

Civil works:

All the buildings are RCC framed Structure with earthquake resistant provisions including Column, beams, slab, filler walls of AAC Blocks, Internal plaster on walls, double layer plaster on external walls

finished with weather proof texture paint, flooring, roofing, façade structural glazing, doors & windows, false ceiling, STP/UGT tanks, road, firefighting, internal & external plumbing, Horticulture etc. as per scheduled Items.

- Overall Concrete grade of the RCC structure are mainly M25, M30 and M-35 or as decided by DFCCIL.
- Internal walls of AAC Blocks having thickness of 100mm and outer walls of AAC Blocks having thickness of 200 mm.
- In major portion of the outer walls, glass glazing is to be done.
- Similarly, at some portions, Aluminum louvers and cladding is to be done.
- All windows are to be made Aluminum material as per SOQ.
- Room Doors are Flush Door 35mm thick with both side laminated sheet.
- Toilet doors are of Flush Door 35mm thick shutters as per SOQ
- Granite flooring in Entrance step, Corridor, Verandah, Staircase & Ramp.
- First class vitrified tile flooring in rooms.
- Anti skid matt finish ceramic floor tile in toilets.
- Treads and risers with nosing in staircase.
- Dado work of Glazed ceramic tile of variable size in toilets of 2100 mm height.
- 12 mm thick cement sand plaster of approved make on all internal wall surfaces and ceilings. Internal walls to be then finished with Acrylic emulsion paint.
- Multicoat synthetic textured plaster in exterior finish over 15 mm ready mix plaster of approved make applied over the RCC/AAC brick work.
- Integral cement-based water proofing treatment over terrace.
- False ceiling work as per BOQ.
- Providing Facade envelope with structural glazing, semi structural glazing and vision panels and openable doors on patch fittings etc.
- RCC structure for STP and ETP, UGT, Fire static tank, Overhead tanks (*above building*)
- Cement Concrete paved roads, parking areas, R.C.C. pipe culverts and cross services sleeves in R.C.C. hume pipes for drainage, water supply and electrical conduiting works.
- Firefighting, Internal & External plumbing including drainage, sewerage, water supply & rain water harvesting, mechanical pumps & equipments etc.
- Maintaining GRIHA 5 Star Green building guidelines during construction activity of buildings & allied services.

Horticulture works

- Miscellaneous horticulture works around the structure as per SOQ.

Other related works to complete the building where interface with other vendors is envisaged.

(vii) **Cost of the work:** The estimated cost of the tendered work is approximately **Rs. 35,62,08,040/- + GST extra.**

(viii) The tenderer(s) shall be governed by General Conditions of Contract (GCC), Preamble and General Instructions to Tenderers (ITT) and Special Conditions of Contract (SCC). Wherever, there is a conflict in any condition between GCC and Special Conditions of Contract mentioned in the tender documents, the condition mentioned in Special Conditions of Contract will prevail. However, Engineer's decision in this connection shall be final and binding.

Part-I, Chapter-IV and V of the tender document contains General Conditions of Contract and Special Conditions of Contract specific to this work and shall be applicable in the contract.

1.3.2 Form of Tender

(i) The Tender documents shall be in **two separate packets** viz: -

"Packet-A "containing **technical bid** and **"Packet-B** "containing **financial bid**. Detailed credentials as per the requirement of eligibility criteria and all tender papers **except** Summary of Prices and Schedule of Prices are to be submitted in "TECHNICAL BID" i.e. Packet-A.

Summary of Prices and Schedule of Prices with percentage above /below / at par duly filled in are to be submitted in "FINANCIAL BID".

(ii) **Documents to be enclosed with the TECHNICAL BID (Packet- A) and FINANCIAL BID (Packet-B) are to be uploaded/submitted as per the check list mentioned in Part-I Chapter-I of the Tender Document.**

1.3.3 Tender Document

This tender document consists of following four parts:

PART/CHAPTERS	DESCRIPTION
PART - I	
Chapter I	Check list of documents to be uploaded/submitted in the E-Tender
Chapter II	Notice Inviting E-Tender
Chapter III	Preamble and General Instructions to Tenderers
Chapter IV	General Conditions of Contract
Chapter V	Special Conditions of Contract
PART - II	Technical Specifications
PART - III	
Chapter I	Milestones and Time Schedule
Chapter II	Tender Forms
PART - IV	Drawings

1.3.4 Sale and Submission of Tender Document

1.3.4.1 Deleted

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, D-89, 1st Floor, Sector-2, Noida- 201301, U.P., 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, Dedicated Freight Corridor Corporation of India Limited, D-89, 1st Floor, Sector-2, Noida- 201301, U.P., 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.

1.3.4.3 Cost of Tender document downloaded from internet

Tender document is available on www.tenderwizard.com/DFCCIL and the same can be downloaded and used as tender documents for submitting the offer. The cost of tender document as mentioned in NIT shall be deposited by the tenderer in the form of Demand Draft (DD) or Banker's Cheque in favour of DFCCIL payable at Delhi/Noida from any Nationalized or Indian Scheduled Commercial Bank only.

The physical form (*originals*) of EMD & Cost of Bid Document shall be sealed in one envelope (*mentioning heading on top as "EMD & Cost of Bid Document" along with Tender No., Name of work and Name & address of Tenderer*) and should be submitted to Chief General Manager/DFCCIL/Noida Unit, D-89, 1st Floor, Sector-2, Noida- 201301 (U.P) on or before the last date & time of Bid submission.

Tenderer to note that, if the cost of bid document (*in the manner specified above*) is not received in original (*before bid submission date & time*) in the office of Chief General Manager/Noida, then, the tender would be ***summarily rejected***.

Also, the proof of submission of Tender document cost should be uploaded/attached along with Bid/offer document (*refer check list item no.2*).

Please note that the cost of the tender document & Earnest Money Deposit should be paid separately and not to be clubbed together.

- 1.3.4.4 Complete tender documents must be submitted online duly completed in all respect **upto 15.00 Hrs on 02.08.2019**. The **"Packet-A (TECHNICAL BID)"** will be opened at **15:30 Hrs on 02.08.2019** 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 **www.tenderwizard.com/DFCCIL**. The detail procedure of tender opening will be as per para- 1.3.5.

1.3.4.5 Financial Bid (*Microsoft Excel file*) is to be downloaded from website **www.tenderwizard.com/DFCCIL** and then, filled, saved and uploaded (*through digital signature*) on the same website and ***not to be submitted in hard copy at all. The financial bid (after filling the rates) should neither be scanned & uploaded, nor, the hard copy of the same should be submitted to the office of CGM/DFCCIL/Noida.***

1.3.4.6 The rates should be quoted in figures only in the Financial Bid online.

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*)

- (a) (i) Before submitting a tender, the tenderer will be deemed to have satisfied himself by actual inspection of the site and locality of the works, that all conditions liable to be encountered during the execution of the works are taken into account with that the rates he enters in the tender forms are adequate and all-inclusive.
- (ii) Tenderers will examine the various provisions of the Central Goods and Services Tax Act, 2017(CGST)/ Integrated Goods and Services Tax Act, 2017(IGST)/Union Territory Goods and Services Tax Act, 2017(UTGST)/respective state's State Goods and Services Tax Act (SGST) also, as notified by Central/State Govt & as amended from time to time and applicable taxes before bidding. 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 along with other details required under CGST/IGST/UTGST/SGST Act to Railway/DFCCIL immediately after the award of contract, without which no payment shall be released to the contractor. The contractor shall be responsible for deposition of applicable GST to the concerned authority.
- (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.

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 attested by him/them.

1.3.5 Opening of Tender:

- (a) Tender will be opened at **15:30** hrs on **02.08.2019**, in the office of Chief General Manager / Noida, **Dedicated Freight Corridor Corporation of India Limited, D-89, 1st Floor, Sector-2, Noida- 201301, U.P, India** in the presence of the tenderers or their 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 there of 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 analysed. 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 short listed.

- (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 short listed after scrutiny of their Technical bid. The Financial bid of the tenderers who do not qualify during scrutiny of Technical bid shall not be opened. 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 of completion of results of Technical 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 / Joint Venture (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 clause 65 to GCC.
- (d) Companies registered under Companies Act-1956: The tenderer shall submit (i) 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 ***is liable to be 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 not be entertained / considered by DFCCIL, however, DFCCIL reserves the right to ask any clarification in regard to the same.

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 Earnest Money: -

- (a) The cost of Earnest money deposit as mentioned in NIT shall be deposited by the tenderer in the form of Demand Draft (DD) or Banker's Cheque or FDR in favour of DFCCIL payable at Delhi/Noida from any Nationalized or Indian Scheduled Commercial Bank only.

The physical form (*originals*) of EMD & Cost of Bid Document shall be sealed in one envelope (*mentioning heading on top as "EMD & Cost of Bid Document" along with Tender No., Name of work and Name & address of Tenderer*) and should be submitted to Chief General Manager/DFCCIL/Noida Unit, D-89, 1st Floor, Sector-2, Noida- 201301 (U.P) on or before the last date & time of Bid submission.'

Tenderer to note that, if EMD (*in the manner specified above*) is not received in original (*before bid submission date & time*) in the office of Chief General Manager/Noida, then, the tender would be ***summarily rejected***.

Also, the proof of submission of EMD should be uploaded/attached along with Bid/offer document (*refer check list item no.1*).

Please note that the cost of the tender document & Earnest Money Deposit should be paid separately and not to be clubbed together.

- (b) 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. 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.
- (c) 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 DFCCIL. Should the tenderer fail to observe or comply with the said stipulation, the aforesaid amount shall be liable to be forfeited by the DFCCIL.

- (d) 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 nor 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, Dedicated Freight Corridor Corporation of India Limited**, D-89, 1st Floor, Sector-2, Noida-201301, U.P., India or if a firm or corporation, a duly authorized representative shall so appear and execute the contract agreement within 30 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 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*.

1.3.10 Security Deposit on Acceptance of Tender:

The security deposit / rate of recovery / mode of recovery on acceptance of tender shall be as per the Para 16. (1) to 16. (3) of General Conditions of Contract (GCC).

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 a 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 of his/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
The tenderer /JV firm or Lead Member of JV firm must have <i>satisfactorily completed at least one similar single work in last three</i> previous financial years and the current financial year upto the date of submission of tender, for a <i>minimum value of 35%</i> of the advertised value of the Tender.	Must meet requirement	Existing JV - Must meet requirement. Or Lead Member of proposed JV- Must meet requirement	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.

Similar work shall mean “Construction of Office/Institutional/Residential RCC framed building work.”

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.
- 3 *For judging the Technical eligibility, works which had been executed for the Govt./Semi Govt. organization/PSUs/Public Ltd. Company will only be considered.*

(B): Financial Eligibility Criteria

Criteria	Compliance Requirement		Documents
Requirement	Single Entity	Joint Venture	Submission Requirements
The contractual payments received by the tenderer / JV firm or the arithmetic sum of contractual payments received by all the members of the JV firm in the previous three financial year and the current financial year up to the date of submission of tender shall be at least 150% of advertised	Must meet Requirement	Must meet requirement	TDS 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.

- Note:** 1. 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 under considerations.
2. In case the tenderer/s is a partnership firm, the turnover etc shall be in the name of partnership firm only.
3. *Contractual payment of only those works which had been executed for the Govt./Semi Govt. organization/PSUs/Public Ltd. Company will only be considered & payments received from private individual/private organization shall not be considered for judging the financial eligibility.*

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:

- (a) For Technical eligibility criteria, the details will be submitted in **Form No. 2A** along with supporting documents.
- (b) For Financial eligibility criteria, the details will be submitted in **Form No. 2B** along with supporting documents.
- (c) 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/Semi Govt. organizations/PSUs/Public Limited Company will only 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) For technical eligibility, similar nature of work physically completed within the qualifying period, i.e. last three 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) For technical eligibility, 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) For financial eligibility, as a proof of sufficient financial capacity and organizational resources, contractor should have received total payments against satisfactory 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 (up to the date of submission of the tender) of a value not less than 150% of advertised tender value.
- (iv) For judging Technical and Financial capability, only ***those works which had been executed for the Govt. organization/semi Govt. organizations/PSUs/Public Limited Company shall be considered*** and the tenderer(s) will submit the certificate to this effect from the Officer concerned duly signed under the official seal. ***It should be noted that credentials for the works executed for Private Individual/ Private Organization shall not be considered.***
- (v) 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 and Form-26AS issued by Income Tax Department. The photocopies of Form 16-A/Form-26AS 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. DFCCIL may invite the Tenderer for offline/online verification of Form-16A & Form-26AS.
- (vi) 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 Web site (<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 of 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.
- (vii) 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>.
- (viii) For the purpose of evaluation of proposals, all values given in INR in eligible 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 (vii) above.

1.3.14 Period of Completion

The entire work is required to be completed in all respects within **18 months** (*Eighteen 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** If the Tenderer/s deliberately gives any wrong information about credentials / documents in his/their tenders and thereby 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*.

1.3.16 Quantum of work and materials:

The indicative schedule of quantities of various items of works is included in Form Nos – 3 & 4 of the tender document.

1.3.17 Employer not bound to accept any tender:

The employer shall not be bound to accept the lowest or any tender or 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.

1.3.18 Deleted

1.3.19 Performance Guarantee: Refer clause no. 16(4) of GCC.

- 1.3.20** The tenderer shall furnish information for making payment through ECS/NEFT/RTGS (*Tender Form No. 8 placed at Part III of the tender document*).

1.3.21 Negotiation:

Should 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 contemplated negotiations relating to Tender No..... datedmy original tender shall remain open for acceptance on its original terms and conditions,".

1.3.22 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.

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

1.3.24 The rates quoted by the contractor are deemed to be inclusive of site clearance, setting out work, profile, setting lay out on ground, establishment of reference bench mark(s), installing various signage, taking spot levels, survey with total station, construction of all safety and protection devices, compulsory use of helmet and safety shoes, and other appropriate safety gadgets by workers, imparting continuous training for all the workers, barriers, preparatory works, construction of clean, hygienic and well ventilated workers housings in sufficient numbers working during monsoon or odd season, working beyond normal hours, working at all depths, height, lead, lift, levels and location etc. and any other unforeseen but essential incidental works required to complete this work. *Nothing extra shall be payable* on this account and *no extension of time* for completion of work shall be granted on these accounts.

The rates quoted by the tenderer shall be inclusive of all taxes and levies but excluding GST. The GST as legally leviable and payable by the Bidder under the provisions of applicable law/act shall be paid extra by DFCCIL.

Therefore, the Bidders should quote their rates after considering the Input Tax Credits on their input materials and services. Hence, Bidders should ensure that, full benefit of Input Tax Credit (ITC) likely to be availed by them is duly considered while quoting their rates.

Price variation will be applicable as per the clause mentioned in GCC.

1.3.25 No Mobilization Advance would be paid by DFCCIL.

1.3.26 Contract value:

The contract value shall be inclusive of all taxes and duties including ESIC, PF, Conditions of Contract contribution & all other statutory taxes and levies (if any) applicable to the Contractors/Workers etc. *but excluding GST.*

1.3.27 Taxes, Duties etc.:

- (i) GSTIN of DFCCIL will be provided to the contractor along with the letter of acceptance (*LOA*).
- (ii) Payment to the contractor will be subjected to TDS as per rules inforce from time to time. The tax deduction at source (*TDS*) shall be done as per the provisions of Income Tax Act & GST, as amended from time to time and a certificate to this effect shall be provided to the contractor by the DFCCIL.
- (iii) Contractor shall submit GST compliant tax invoice containing (*GSTIN of DFCCIL*) and all the particulars as stipulated under invoice rules of GST law. Payment shall be made to the contractor only after submission of GST compliant tax invoice.
- (iv) No reimbursement on account of increase/decrease in the rate of taxes, levies, duties etc. on input goods/services/work shall be made. Bidder has to make his own assessment of the impact of future variation (*if any*) in rate of taxes/duties/levies etc. in his price bid.

PART- I

CHAPTER- IV

GENERAL CONDITIONS OF CONTRACT

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GENERAL CONDITIONS OF CONTRACT

DEFINITIONS AND INTERPRETATION

1. (1) Definition: - In these General conditions of Contract, the following terms shall have the meaning assigned hereunder except where the context otherwise requires: -

- (a) **“Railway”** shall mean the President of the Republic of India or the Administrative Officers of the DFCCIL or of the Successor DFCCIL authorized to deal with any matters which these presents are concerned on his behalf.
- (b) **“General Manager of Railway”** shall mean the officer - in-charge of the General Superintendence and Control of the Railway and shall mean and include their successors, of the successor Railway;
- (c) **“Chief Engineer”** shall mean the officer - in-charge of the Engineering Department of Railway and shall also include Chief Engineer (*Construction*), Chief Signal and Telecommunication Engineer, Chief Signal and Telecommunication Engineer (*Construction*), Chief Electrical Engineer, Chief Electrical Engineer (*Construction*) and shall also include GGM/GM of DFCCIL.
- (d) **“Divisional Railway Manager”** shall mean the Officer in-charge of a Division of the Railway and shall also mean any officer nominated by Managing Director / DFCCIL and shall mean and include their successors of the successor Railway.
- (e) **“Engineer”** and Employer’s Engineer shall mean the Chief General Manager of DFCCIL / PMC appointed by DFCCIL. Employer/Owner shall mean DFCCIL
- (f) **“Engineer’s Representative”** shall mean the Assistant Engineer, Assistant Signal and Telecommunication Engineer and Assistant Electrical Engineer, APM / PM / Dy. CPM / Add. CPM of DFCCIL in direct charge of the work and shall include any Sr. Sec. / Sec / Jr. Engineer / Executive / Sr. Executive, APM/PM / Dy CPM of DFCCIL of Civil Engineering / Signal & Telecommunication Engineering/ Electrical Engineering Department appointed by the Railway / DFCCIL and shall mean and include the Engineer’s Representative of the successor Railway / DFCCIL/PMC.
- (g) **“Contractor”** shall mean the person / Firm / Company / JV whether incorporated or not who enters into the contract with the DFCCIL and shall include their executors, administrators, and successors and permitted assigns.
- (h) **“Contract”** shall mean and include the Agreement of Work Order, the accepted schedule of rates of the Schedule or Rates of DFCCIL modified by the tender percentage for items of work quantified, or not quantified, General Conditions of Contract, Special Conditions of Contracts, if any, Drawings, Specifications, Additional / Special Specifications, if any and tender forms, if any, and all other documents included as part of contract .
- (i) **“Works”** shall mean the works to be executed in accordance with the contract.

- (j) **“Specifications”** shall mean the Specifications for materials and works referred / mentioned in tender documents.
- (k) **“Schedule of rates of CPWD”** shall mean the Delhi Schedule of Rates issued under the authority of the Director General CPWD from time to time and shall also include Rates specified in tender document.
- (l) **“Drawing”** shall mean the maps, drawings, plans and tracings or prints there of annexed to the contract and shall include any modifications of such drawings and further drawings as may be issued by the Engineer from time to time.
- (m) **“Constructional Plan”** shall mean all appliances or things of whatsoever nature required for the execution, completion or maintenance of the works or temporary works (*as hereinafter defined*) but does not include materials or other things intended to form or forming part of the permanent work.
- (n) **“Temporary Works”** shall mean all temporary works of every kind required for the execution completion and/or maintenance of the works.
- (o) **“Site”** shall mean the lands and other places on, under, in or through which the works are to be carried out and any other lands or places provided by the Railway for the purpose of the contract.
- (p) **“Period of Maintenance”** shall mean the defect liability period from the date of completion of the works as certified by the Engineer.

1.(2) Singular and Plural: - Words importing the singular number shall also include the plural and vice versa where the context requires.

1.(3) Headings & marginal headings: -The headings and marginal headings in these general conditions are solely for the purpose of facilitating reference and shall not be deemed to be part thereof or be taken into consideration in the interpretation or construction thereof or the contract.

GENERAL OBLIGATION

2. (1) Execution Co-relation and intent of contract Documents: -The contract documents shall be signed in triplicate by the DFCCIL and the Contractor. The contract documents are complementary, and what is called for by any one shall be as binding as if called for by all, the intention of the documents is to include all labour and materials, equipments and transportation necessary for the proper execution of work. Materials or work not covered by or properly inferable from any heading or class of the specifications shall not be supplied by the DFCCIL to the contractors unless distinctly specified in the contract documents. Materials or works described in words which so applied have a well-known technical or trade meaning shall be held to refer to such recognized standards.

2.(2) If a work is transferred from the jurisdiction of one Railway to another Railway or to a Project Authority/DFCCIL or vice versa while contract is in subsistence, the contract shall be binding on the Contractor and the Successor Railway/Project in the same manner & take effect all respects as if the Contractor and the Successor Project were parties there to from the inception and the corresponding

officer or the Competent Authority in the Successor Railway/Project will exercise the same powers and enjoy the same authority as conferred to the Predecessor Railway/Project under the original contract/agreement entered into.

- 2.(3) If for administrative or other reasons, the contract is transferred to the Successor Railway/Successor Project Authority of DFCCIL, the contract shall notwithstanding any things contained herein contrary there to, be binding on the Contractor and the Successor Railway/Project Authority/DFCCIL in the same manner and take effect in all respect as if the Contractor and the Successor Railway/Successor Project Authority of DFCCIL had been parties thereto from the date of this contract. The contract shall be Administered/Managed by GGM/GM/CPM/nominated by DFCCIL.
- 3.(1) **Law governing the contract:** -The contract shall be governed by the law for the time being in force in the Republic of India.
- 3.(2) **Compliance to regulations and bye-laws:-**The contractor shall conform to the provision of any statute relating to the works and regulations and by-laws of any location authority and of any water and lighting companies or undertakings, with whose system the work is proposed to be connected and shall before making any variation from the drawings or the specifications that may be necessitated by so confirming give to the Engineer notice specifying the variation proposed to be made and the reasons for making the variation and shall not carry out such variation until he has received instructions from the Engineer in respect thereof. The contractor shall be bound to give all notices required by statute, regulations or bye-laws as aforesaid and to pay all fees and taxes payable to any authority in respect thereof.
4. **Communications to be in writing:** - All notices, communications, reference and complaints made by the DFCCIL or the Engineer or the Engineer's representative or the contractor inters concerning the work shall be in writing and no notice, communication, reference or complaint not in writing shall be recognized.
5. **Service of Notices on Contractors:-**The contractor shall furnish to the Engineer the name designation and address of his authorized agent and all complaints, notices, communications and references shall be deemed to have been duly given to the contractor if delivered to the contractor or his authorized agent or left at or posted to the address so given and shall be deemed to have been so given in the case of posting on day on which they would have reached such address in the ordinary course of post or on the day on which they were so delivered or left. In the case of contract by partners, any change in the constitution of the firm shall be forthwith notified by the contractor to the Engineer.
6. **Occupation and use of land:** - No land belonging to or in the possession of the Railway/DFCCIL shall be occupied by the Contractor without the permission of the Railway/DFCCIL. The Contractor shall not use, or allow to be used; the site for any purposes other than that of executing the works. Whenever non-railway bodies/persons are permitted to use railway premises with competent authority's approval, **conservancy charges** as applicable from time to time **may be levied**.

7. **Assignment or subletting of contract:** - The contractor shall not assign or sublet the contract or any part thereof or allow any person to become interested therein in any manner whatsoever without the special permission in writing of the DFCCIL. Any breach of this condition shall entitle the DFCCIL to rescind the contract under clause 62 of these conditions and also render the contractor liable for payment to the DFCCIL in respect of any loss or damage arising or ensuing from such cancellation. Provided always that execution of the details of the work by petty contractor under the direct and personal supervision of the Contractor or his agent shall not be deemed to be sub-letting under this clause. The permitted subletting of work by the contractor shall not establish any contractual relationship between the sub- contractor and the DFCCIL and shall not relieve the contractor of any responsibility under the contract.
8. **Assistance by the DFCCIL for the Stores to be obtained by the Contractor:-** Owing to difficulty in obtaining certain materials (including Tools & Plant) in the market, the DFCCIL may have agreed without any liability therefore to endeavour to obtain or assist the contractor in obtaining the required quantities of such materials as may be specified in the tender. In the event of delay or failure in obtaining the required quantities of the aforesaid material the contractor shall not be deemed absolved of his own responsibility and shall keep in touch with day to day positions regarding their availability and accordingly adjust progress of works including employment of labour and the DFCCIL shall not in any way be liable for the supply of materials or for the non-supply thereof for any reasons whatsoever nor for any loss or damage arising in consequence of such delay or no supply.
9. **Deleted**
10. **Carriage of materials:** - No forwarding orders shall be issued by the DFCCIL for the conveyance of contractor's materials, tools and plant by Rail which may be required for use in the works and the contractor shall pay full freight charges at public tariff rates therefore.
11. **Deleted**
12. **Representation on Works:-** The contractor shall, when he is not personally present on the site of the works place and keep a responsible agent at the works during working hours who shall on receiving reasonable notice, present himself to the Engineer and orders given by the Engineer or the engineer's representative to the agent shall be deemed to have the same force as if they had been given to the Contractor. Before absenting himself, the contractor shall furnish the name and address of his agent for the purpose of this clause and failure on the part of the Contractor to comply with this provision at any time will entitle the DFCCIL to **rescind the contract** under clause 62 of these conditions.
13. **Relics and Treasures:-** All gold, silver, oil and other minerals of any description and all precious stones, coins, treasures relics antiquities and other similar things which shall be found in or upon the site shall be the property of the DFCCIL and the Contractor shall duly preserve the same to the satisfaction of the DFCCIL and shall from time to time deliver the same to such person or persons as the DFCCIL may appoint to receive the same.

- 14. Excavated material:-**The contractor shall not sell or otherwise dispose of or remove except for the purpose of this contract, the sand, stones, clay, ballast, earth, rock or other substances or materials which may be obtained from any excavation made for the purpose of the works or any building or produced upon the site at the time of delivery of the possession thereof but all the substances, materials, buildings and produce shall be the property of the DFCCIL provided that the contractor may, with the permission of the Engineer, use the same for the purpose of the works either free of cost or pay the cost of the same at such rates as may be determined by the Engineer.
- 15. Indemnity by Contractors:** The Contractor shall indemnify and save harmless the Railway/DFCCIL from and against all actions, suit proceedings losses, costs, damages, charges, claims and demands of every nature and description brought or recovered against the Railways/DFCCIL by reason of any act or omission of the contractor, his agents or employees, in the execution of the works or in his guarding of the same. All sums payable by way of compensation under any of these conditions shall be considered as reasonable compensation to be applied to the actual loss or damage sustained, and whether or not any damage shall have been sustained.
- 16.(1) Security Deposit: -** The earnest money deposited by the contractor with this tender will be retained by the DFCCIL as part of security for the due and faithful fulfilment of the contract by the contractor. The balance to make up the security deposit, the rates for which are given below, may be deposited by the contractor or may be recovered by percentage deduction from the contractor's "on account" bills. Provided also that in case of defaulting contractor the DFCCIL may retain any amount due for payment to the contractor on the pending "on account bills" so that the amounts so retained may not exceed 10% of the total value of the contract.
- 16.(2) Recovery of Security Deposit: -** Unless otherwise specified in the special conditions, if any, the Security Deposit / rate of recovery / mode of recovery shall be as under:
- (a) Security Deposit for each work should be 5% of the contract value.
 - (b) The rate of recovery should be at the rate of 10% of the bill amount till the full security deposit is recovered.
 - (c) Security Deposits will be recovered only from the running bills of the contract and no other mode of collecting SD such as SD in the form of instruments like BG (*except Note (ii) below*); FD etc. shall be accepted towards Security Deposit.

Security deposit shall be returned to the contractor after the expiry of the Defect Liability Period in all the cases other than Note (i) mentioned below and after passing the final bill based on No Claim Certificate with the approval of the Competent Authority. The Competent Authority shall normally be the authority who is competent to sign the contract. If this competent authority is of the rank lower than JA grade / CGM, DFCCIL, then JA grade officer / CGM, DFCCIL (*Concerned with the work*) should issue the certificate. The certificate, inter alia, should mention that the work has been completed in all respects and that all the contractual obligations have been fulfilled by the contractor and that there is no due from the contractor to Railways/DFCCIL against the contract concerned. Before releasing the SD, an unconditional and unequivocal no claim certificate from the contractor concerned should be obtained.

Note:

- (i) After the work is physically completed, security deposit recovered from the running bills of a contractor can be returned to him if he so desires, in lieu of FDR / irrevocable Bank Guarantee for equivalent amount to be submitted by him.
- (ii) In case of contracts of value Rs.50 crore and above, irrevocable Bank Guarantee can also be accepted as a mode of obtaining security deposit.
- (iii) **Water Proofing: An amount of 10% (ten percent) of the cost of Water-Proofing item shall be retained as Guarantee for a period of 10 years. The detail shall follow as per clause no. 5.8 i. e Defect Liability Period (DLP)**

16.(3) No interest will be payable upon the Earnest Money and Security Deposit or amounts payable to the contractor under the contract.

16.(4) Performance Guarantee (P.G.)

The procedure for obtaining Performance Guarantee is outlined below:

- (a) The successful bidder shall have to submit a Performance Guarantee (PG) within 30 (thirty) days from the date of issue of Letter of Acceptance (LOA). Extension of time for submission of PG beyond 30 (thirty) days and upto 60 days from the date of issue of LOA may be given by the Authority who is competent to sign the contract agreement. However, a penal interest of 15% per annum shall be charged for the delay beyond 30 (thirty) days, i.e. from 31st day after the date of issue of LOA. In case the contractor fails to submit the requisite PG even after 60 days from the date of issue of LOA, the ***contract shall be terminated duly forfeiting EMD and other dues***, if any payable against that contract. The failed contractor shall be debarred from participating in re-tender for that work.
- (b) The successful bidder shall submit the Performance Guarantee in the following form amounting to 5% of the contract value: -
 - (i) Irrevocable Bank Guarantee

Note: The instruments as listed above will also be acceptable for Guarantees in case of Mobilization advance.

- (c) The performance Guarantee shall be submitted by the successful bidder after the letter of acceptance has been issued, but before signing of the contract agreement. The agreement should normally be signed within 30 (thirty) days after the issue of LOA and the Performance Guarantee shall also be submitted within this time limit. This P. G. shall be initially valid up to the stipulated date of completion plus 60 days beyond that. In case, the time limit for completion of work gets extended, the contractor shall get the validity of Performance Guarantee extended to cover such extended time for completion of work plus 60 days.
- (d) The value of PG to be submitted by the Contractor will not change for variation upto 25% (*either increase or decrease*).

In case, during course of execution, value of contract increases by more than 25% of the original contract value, an additional performance guarantee amounting to 5% (*Fiver percent*) for the excess value over the original contract value shall be deposited by the Contractor.

On the other hand, if the value of the Contract decreases by more than 25% of the original contract value, performance guarantee amounting to 5% (*Five percent*) of the decrease in contract value shall be returned to Contractor. The PG amount in excess of required PG for decreased contract value, available with Railways/DFCCIL shall be returned to Contractor as per their request duly safeguarding the interest of Railway/DFCCIL.

The procedure to release “Excess PG available with Railways/DFCCIL with respect to required PG for decreased contract value” will be as under:

- Contractor shall submit his request to release current PG, along with submission of a revised PG of requisite amount as notified/communicated by Railways/DFCCIL, in any of the forms as per Clause-16(4) except in cases where earlier PG has been submitted either in Cash or Demand Draft.
 - Railways/DFCCIL shall duly verify and confirm the genuinity of revised PG as per concurrent guidelines.
 - After confirmation regarding genuinity of revised PG of requisite value, earlier PG can be released.
- (e) The performance Guarantee (PG) shall be released after the physical completion of the work based on the ‘completion certificate’ issued by the competent authority stating that the contractor has completed the work in all respects satisfactorily. The security deposit shall, however, be released only after the expiry of the defect liability period and after passing the final bill based on ‘No Claim Certificate’ from the contractor.
- (f) **Whenever the contract is rescinded, the security deposit shall be forfeited and the Performance Guarantee shall be encashed.** The balance work shall be got done independently without risk and cost of the failed contractor; the failed contractor shall be debarred from participating in the tender for executing the balance work. If the failed contractor is a JV or a partnership firm, then every member / partner of such a firm shall be debarred from participating in the tender for the balance work in his / her individual capacity or as a partner of any other JV / partnership firm.
- (g) The Engineer shall not make a claim under the Performance Guarantee except for amounts to which the President of India / DFCCIL is entitled under the contract (*not withstanding and/or without prejudice to any other provisions in the contract agreement*) in the event of:
- (i) Failure by the contractor to extend the validity of the Performance Guarantee as described herein above, in which event the Engineer may claim the full amount of the Performance Guarantee.
 - (ii) Failure by the contractor to pay President of India / DFCCIL any amount due, either as agreed by the contractor or determined under any of the Clauses/conditions of the agreement, within 30 days of the service of the notice to the effect by Engineer.

- (iii) The contract being determined or rescinded under provision of the GCC the Performance Guarantee shall be forfeited in full and shall be absolutely at the disposal of the President of India.

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

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

- (i) **Extension due to modification:-** If any modifications have been ordered which in the opinion of the Engineer have materially increased the magnitude of the work, then such extension of the contracted date of completion may be granted as shall appear to the Engineer to be reasonable in the circumstances, provided moreover that the Contractor shall be responsible for requesting such extension of the date as may be considered necessary as soon as the cause thereof shall arise and in any case not less than one month before the expiry of the date fixed for completion of the works.
- (ii) **Extension for delay not due to DFCCIL or Contractor:-** If in the opinion of the Engineer the progress of work has any time been delayed by any act or neglect of Railways/DFCCIL's employees or by other contractor employed by the DFCCIL under sub-clause (4) of clause 20 of these conditions or in executing the work not forming part of the contract but on which contractor's performance necessarily depends or by reasons of proceeding taken or threatened by or dispute with adjoining or to neighbouring owners or public authority arising otherwise through the Contractor's own default etc. or by the delay authorized by the Engineer pending arbitration or in consequences of the contractor not having received in due time necessary instructions from the DFCCIL for which he shall have specially applied in writing to the Engineer or his authorized representative then upon happening of any such event causing delay, the contractor shall immediately give notice thereof in writing to the Engineer within 15 days of such happening but shall nevertheless make constantly his best endeavours to bring down

or make good the delay and shall do all that may be reasonably required of him to the satisfaction of the Engineer to proceed with the works. The contractor may also indicate the period for which the work is likely to be delayed and shall be bound to ask for necessary extension of time. The Engineer on receipt of such request from the contractor shall consider the same and shall grant such extension of time as in his opinion is reasonable having regard to the nature and period of delay and the type and quantum of work affected thereby.

No other compensation shall be payable for works so carried forward to the extended period of time, the same rates, terms and conditions of contract being applicable as if such extended period of time was originally provided in the original contract itself.

- (iii) **Extension for delay due to Railways / DFCCIL:-** In the event of any failure or delay by the Railway / DFCCIL to hand over the Contractor possession of the lands necessary for the execution of the works or to give the necessary notice to commence the works or to provide the necessary drawings or instructions or any other delay caused by the DFCCIL due to any other cause whatsoever, then such failure or delay shall in no way affect or vitiate the contract or alter the character thereof or entitle the contractor to damages or compensation therefore, but in any such case, the DFCCIL may grant such extension or extensions of the completion date as may be considered reasonable.

17-B Extension of time for delay due to contractor:- The time for the execution of the work or part of the works specified in the contract documents shall be deemed to be the essence of the contract and the works must be completed not later than the date(s) as specified in the contract. If the contractor fails to complete the works within the time as specified in the contract for the reasons other than the reasons specified in clause 17 and 17-A, the DFCCIL may, if satisfied that the works can be completed by the contractor within reasonable short time thereafter, allow the contractor for further extension of (Performa at Form No. 14) time as the Engineer may decide. On such extension the DFCCIL will be entitled without prejudice to any other right and remedy available on that behalf, ***to recover from the contractor as agreed damages and not by way of penalty a sum equivalent to ½ of 1% of the contract value of the works for each week or part of the week.***

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

- (i) For contract value up to Rs. 2 lakhs - 10% of the total value of the contract.
- (ii) For contracts valued above Rs. 2 lakhs- 10% of the first Rs.2 lakhs and 5% of the balance.

Further competent authority while granting extension to the currency of contract under clause 17. (B) of ***GCC may also consider levy of token penalty as deemed fit*** based on the merit of the case. Provided further, that if the DFCCIL is not satisfied that the works can be completed by the Contractor and in the event of failure on the part of the contractor to complete the work within further extension of time allowed as aforesaid, the DFCCIL shall be entitled without prejudice to any

other right or remedy available in that behalf, to appropriate the ***contractor's security deposit*** and ***rescind the contract*** under clause 62 of these conditions, whether or not actual damage is caused by such default.

- 18.(1) Illegal Gratification:-** Any bribe, commission, gift or advantage given, promised or offered by or on behalf to the contractor or his partner, agent or servant or, anyone on his behalf, to any officer or employee of the DFCCIL, or to any person on his behalf in relation to obtaining or execution of this or any other contract with the DFCCIL shall, in addition to any criminal liability which he may incur, subject contractor to the ***rescission of the contract*** and all other contracts with the DFCCIL and to the payment of any loss or damage resulting from such decision and the DFCCIL shall be entitled to deduct the amounts so payable from any moneys due to the Contractor(s) under this contract or any other contracts with the DFCCIL.
- 18.(2)** The contractor shall not lend or borrow from or have or enter into any monetary dealings and transactions either directly or indirectly with any employee of the DFCCIL and if he shall do so, the DFCCIL shall be entitled forthwith to ***rescind the contract*** and all other contracts with the DFCCIL. Any question or dispute as to the commission or any such offence or compensation payable to the DFCCIL under this clause shall be settled by the Chief General Manager/Noida of the DFCCIL, in such a manner as he shall consider fit and sufficient and his decision shall be final and conclusive. In the event of rescission of the contract under this clause, the contractor will not be paid any compensation whatsoever except payments for the work done up to the date of rescission.

EXECUTION OF WORKS

- 19.(1) Contractor's understanding:-** It is understood and agreed that the contractor has, by careful examination, satisfied himself as to the nature and location of the work, the conformation of the ground, the character, quality and quantity of the materials to be encountered, the character of equipment and facilities needed preliminary to and during the progress of the works, the general and local conditions, the labour conditions prevailing therein and all other matters which can in any way affect the works under the contract.
- 19.(2) Commencement of works:** -The contractor shall commence the works within 15 days after the receipt by him of an order in writing to this effect from the Engineer and shall proceed with the same with due expedition and without delay.
- 19.(3) Accepted Programme of work:-** The contractor who has been awarded the work shall as soon as possible but not later than 30 days after the date of receipt of the acceptance letter in respect of contracts with initial completion period of two years or less or not later than 90 days for other contracts have to submit the detailed programme of work indicating the time schedule of various items of works in the form of Bar Chart/PERT/CGM. He shall also submit the details of organization (*in terms of labour and supervisors*) plant and machinery, that he intends to utilize (*from time to time*) for execution of the work within stipulated date of completion. The programme of work amended as necessary by discussions with the Engineer, shall be treated as the agreed programme of the work for the purpose of this contract and the contractor shall endeavour to fulfil this programme of work. The progress of work will be watched accordingly and the ***liquidated damages will be with reference to the overall completion date***. Nothing stated herein shall preclude the contractor in achieving earlier completion of item or whole of the works than indicated in the programme.

- 19.(4) Setting out of works:** - The contractor shall be responsible for the correct setting out of all works in relation to original points, lines and levels of reference at his cost. The contractor shall execute the work true to alignment, grade, levels and dimensions as shown in the drawing and as directed by the Engineer's representative and shall check these at frequent intervals. The contractor shall provide all facilities like labour and instruments and shall co-operate with the Engineer's representative to check all alignment, grades, levels and dimensions. If, at any time, during the progress of the works any error shall appear or arise in any part of the work, the contractor, on being required so to do by the Engineer's representative shall, at his own cost rectify such errors, to the satisfaction of the Engineer's representative. Such checking shall not absolve the contractor of his own responsibility of maintaining accuracy in the work. The contractor shall carefully protect and preserve all bench marks, sight rails, pegs and other things used in setting out the work.
- 20.(1) Compliance to Engineer's instructions:**-The Engineer shall direct the order in which the several parts of the works shall be executed and the contractor shall execute without delay all orders given by the Engineer from time to time but the contractor shall not be relieved thereby from responsibility for the due performance of the works in all respects.
- 20.(2) Alterations to be authorized:** -No alterations in or additions to or omissions or abandonment of any part of the works shall be deemed authorized, except under instructions from the Engineer, and the contractor shall be responsible to obtain such instructions in each and every case in writing from the Engineer.
- 20.(3) Extra works:-** Should works over and above those included in the contract require to be executed at the site, the contractor shall have no right to be entrusted with the execution of such works which may be carried out by another contractor or contractors or by other means at the option of the DFCCIL.
- 20.(4) Separate contracts in connection with works:** - The DFCCIL shall have the right to let other contracts in connection with the works. The contractor shall afford other contractors' reasonable opportunity for the storage of their materials and the execution of their works and shall properly connect and coordinate his work with theirs. If any part of the contractor's work depends for proper execution or result upon the work of another contractor(s), the contractor shall inspect and promptly report to the Engineer any defects in such works that render it unsuitable for such proper execution and results. The contractor's failure so-to inspect and report shall constitute an acceptance of the other contractor's work as fit and proper for the reception of his work, except as to defects which may develop in the other contractor's work after the execution of his work.
- 21. Instruction of Engineer's Representative:** - Any instructions or approval given by the Engineer's representative to contractor in connection with the works shall bind the contractor as though it had been given by the Engineer provided always as follows.
- (a) Failure of the Engineer's representative to disapprove any work or materials shall not prejudice, the power of the Engineer thereafter to disapprove such work or material and to order the removal or breaking up thereof.

- (b) If the Contractor shall be dissatisfied by reason of any decision of the Engineer's representative, he shall be entitled to refer the matter to the Engineer who shall there upon confirm or vary such decision.

- 22.(1) Adherence to specifications and drawings:** - The whole of the works shall be executed in perfect conformity with the specifications and drawings of the contract. If contractor performs any works in a manner contrary to the specifications or drawings or any of them and without such reference to the Engineer he shall bear all the costs arising or ensuing therefore and shall be responsible for all loss to the DFCCIL.
- 22.(2) Drawings and specifications of the works:** - The contractor shall keep one copy of drawings and specifications at the site, in good order, and such contract documents as may be necessary available to the Engineer or the Engineer's representative.
- 22.(3) Ownership of drawings and specifications:** - All drawings and specifications and copies thereof furnished by the DFCCIL to the Contractor are deemed to be the property of the DFCCIL. They shall not be used on other works and with the exception of the signed contract set, shall be returned by the contractor to the DFCCIL on completion of the work or termination of the contract.
- 22.(4) Compliance with Contractor's request for details:** - The Engineer shall furnish with reasonable promptness, after receipt by him of the contractor's request for the same, additional instructions by means of drawings or otherwise, necessary for the proper execution of the works or any part thereof. All such drawing and instructions shall be consistent with the contract Documents and reasonably inferable there from.
- 22.(5) Meaning and intent of specification and drawings:-** If any ambiguity arises as to the meaning and intent of any portion of the specifications and drawings or as to execution or quality of any work or material, or as to the measurements of the works the decision of the Engineer thereon shall be final subject to the appeal (*within 7 days of such decision being intimated to the contractor*) to the CGM who shall have the power to correct any errors, omissions, or discrepancies in aforementioned items and whose decision in the matter in dispute or doubt shall be final and conclusive.
- 23 Working during night:** - The contractor shall not carry out any work between sun-set and sun-rise without the previous permission of the Engineer.
- 24. Damage to Railway / DFCCIL property or private life and property:-**The contractor shall be responsible for all risk to the work and for trespass and shall make good at his own expense all loss or damage whether to the works themselves or to any other property of the Railway or the lives, persons or property of others from whatsoever cause in connection with the works until they are taken over by the Railway/ DFCCIL and this although all reasonable and proper precautions may have been taken by the contractor, and in case the Railway / DFCCIL shall be called upon to make good any costs, loss or damages, or to pay an compensation, including that payable under the provisions of the Workmen's Compensation Act or any statutory amendments thereof to any person or persons sustaining damages as aforesaid by reason of any act, or any negligence or omissions on the part of

the contractor the amount of any costs or charges including costs and charges in connection with legal proceedings, which the Railway / DFCCIL may incur in reference thereto, shall be charged to the contractor. The Railway / DFCCIL shall have the power and right to pay or to defend or compromise any claim of threatened legal proceedings or in anticipation of legal proceedings being instituted consequent on the action or default of the contractor, to take such steps as may be considered necessary or desirable to ward off or mitigate the effect of such proceedings, charging to contractor, as aforesaid any sum or sums of money which may be paid and any expenses whether for reinstatement or otherwise which may be incurred and the propriety of any such payment, defence or compromise, and the incurring of any such expenses shall not be called in question by the contractor.

25. Sheds, stores houses and Yards:-The contractor shall at his own expense provide himself with sheds, stores houses and yards in such situations and in such numbers as in the opinion of the Engineer is requisite for carrying on the works and the contractor shall keep at each such sheds, stores houses and yard a sufficient quantity of materials and plant in stock as not to delay the carrying out of the works with due expedition and the Engineer and the Engineer's representative shall have free access to the said sheds, store houses and yards at any time for the purpose of inspecting the stock of materials or plant so kept in hand, and any materials or plan which the Engineer may object to shall not be brought upon or used in the works, but shall be forthwith removed from the sheds, store houses or yards by the contractor. The contractor shall at his own expenses provide and maintain suitable mortar mills, soaking vats or any other equipments necessary for the execution of the works.

26. Provision of efficient and competent Staff at work sites by the Contractor: -

26.1 The contractor shall place and keep on the works at all times efficient and competent staff to give the necessary directions to his workmen and to see that they execute their work in sound and proper manner and shall employ only such supervisors, workmen and labourers in or about the execution of any of these works as are careful and skilled in the various trades.

26.2 The contractor shall at once remove from the works any agents, permitted sub-contractor, supervisor, workman or labourer who shall be objected to by the Engineer and if and whenever required by the Engineer, he shall submit a correct return showing the names of all staff and workmen employed by him.

26.3 In the event of the Engineer being of the opinion that the contractor is not employing on the works a sufficient number of staff and workmen as is necessary for the proper completion of the works within the time prescribed, the contractor shall forthwith on receiving intimation to this effect deploy the additional number of staff and labour specified by the Engineer within seven days of being so required and failure on the part of the contractor to comply with such instructions will entitle the Railway to *rescind the contract* under clause 62 of these conditions.

26A. Deployment of Qualified Engineers at Work Sites by the Contractor: -

26A.1 The contractor shall also employ Qualified Graduate Engineer or Qualified Diploma Holder Engineer, based on value of contract, as may be prescribed by the Ministry of Railways through separate instructions from time to time.

26A.2 In case, the contractor fails to employ the Engineer, as aforesaid in Para 26A.1, he shall be liable to pay penalty at the rates, as may be prescribed by the Ministry of Railways through separate instructions from time to time for the default period for the provisions, as contained in Para 26A.1.

26A.3 Deleted

27.(1) Workmanship and testing:- The whole of the works and / or supply of materials specified and provided in the contract or that may be necessary to be done in order to form and complete any part thereof shall be executed in the best and most substantial workman like manner with materials of the best and most approved quality of their respective kinds, agreeable to the particulars contained in or implied by the specifications and as referred to in and represented by the drawings or in such other additional particulars, instructions and drawings may be found requisite to be given during the carrying on of the works and to the entire satisfaction of the Engineer according to the instructions and directions which the contractors may from time to time receive from the Engineer. The materials may be subjected to tests by means of such machines, instruments and appliances as the Engineer may direct and *wholly at the expense of the contractor*.

27.(2) Removal of improper work and materials: - The Engineer or the Engineer's Representative shall be entitled to order from time to time:

- (a) The removal from the site within the time specified in the order of any materials which in his opinion are not in accordance with the specifications or drawings.
- (b) The substitution of proper and suitable materials, and
- (c) the removal and proper re-execution, notwithstanding any previous tests thereof or on account payments therefore, of any work which in respect of materials or workmanship; is not in his opinion in accordance with the specifications and in case of default on the part of the contractor in carrying out such order the DFCCIL shall be entitled to *rescind the contract* under clause 62 of these conditions.

28. Facilities for inspection:- The contractor shall afford the Engineer and the Engineer's Representative every facility for entering in and upon every portion of the work at all hours for the purpose of inspection or otherwise and shall provide all labour, materials, planks, ladders, pumps, appliances and things of every kind required for the purpose and the Engineer and the Engineer's Representative shall at all times have free access to every part of the works and to all places at which materials for the works are stored or being prepared.

29. Examination of work before covering up:- The contractor shall give 7 days' notice to the Engineer or the Engineer's representative whenever any work or materials are intended to be covered up in the earth, in bodies or walls or otherwise to be placed beyond the reach of measurements in order that the work may be inspected or that correct dimensions may be taken before being so covered, placed beyond the reach of measurement in default whereof, the same shall at the option of the Engineer or the Engineer's representative be uncovered and measured at the contractor's expense or no allowance shall be made for such work or materials.

30. Temporary Works: - All temporary works necessary for the proper execution of the works shall be provided and maintained by the contractor and subject to the consent of the Engineer shall be removed by him at his expenses when they are no longer required and in such manner as the Engineer shall direct. In the event of failure on the part of the contractor to remove the temporary works, the Engineer will cause them to be removed and cost as increased by supervision and other incidental charges ***shall be recovered from the contractor.*** If temporary huts are provided by the contractor on the Railway / DFCCIL land for labour engaged by him for the execution of works, the contractor shall arrange for handing over vacant possession of the said land after the work is completed; if the contractor's labour refuse to vacate, and have to be ejected by the Railway / DFCCIL necessary expenses incurred by the Railway / DFCCIL in connection therewith shall be borne by the contractor.

31.(1) Contractor to supply water for works: - Unless otherwise provided in the contract, the contractor shall be responsible for the arrangements to obtain supply of water necessary for the works.

31.(2) Deleted

31.(3) Deleted

31.(4)(a) Contractor to arrange supply of Electric power for works: - Unless otherwise provided in the contract, the contractor shall be responsible for arrangements to obtain supply of electric power for the works.

31.(4)(b) Deleted

32. Property in materials and plant:- The materials and plant brought by the Contractor upon the site or on the land occupied by the Contractor in connection with the works and intended to be used for the execution thereof shall immediately, they are brought upon the site of the said land, be deemed to be the property of the Railway / DFCCIL. Such of them as during the progress of the works are rejected by the Engineer under Clause 25 of these conditions or are declared by him not to be needed for the execution of the works or such as on the grant of the certificate of completion remain unused shall immediately on such rejection, declaration or grant cease to be deemed the property of the Railway / DFCCIL and the Contractor may then (*but not before*) remove them from the site or the said land. This clause shall not in any way diminish the liability of the Contractor nor shall the Railway / DFCCIL be in any way answerable for any loss or damage which may happen to or in respect of any such materials or plant either by the same being lost, stolen, injured or destroyed by fire, tempest or otherwise.

33. (1) Deleted

33.(2) Deleted

34.(1) Precaution during progress of works:- During the execution of works, unless otherwise specified, the Contractor shall at his own cost provide the materials for and execute all shoring, timbering and strutting works as is necessary for the stability and safety of all structures, excavations and works and shall ensure that no damage, injury or loss is caused or likely to be caused to any person or property.

34.(2) Roads and Water courses: - Existing roads or water courses shall not be blocked, cut through, altered, diverted or obstructed in any way by the Contractor, except with the permission of the Engineer. All compensations claimed for any unauthorized closure, cutting through, alterations, diversion or obstruction to such roads or water courses by the Contractor or his agent or his staff shall be recoverable from the Contractor by deduction from any sums which may become due to him in terms of contract, or otherwise according to law.

34.(3) Provision of access to premises:- During progress of work in any street or thoroughfare, the Contractor shall make adequate provision for the passage of traffic, for securing safe access to all premises approached from such street or thoroughfare and for any drainage, water supply or means of lighting which may be interrupted by reasons of the execution of the works and shall react and maintain at his own cost barriers, lights and other safeguards as prescribed by the Engineer, for the regulation of the traffic, and provide watchmen necessary to prevent accidents. The works shall in such cases be executed night and day if so ordered by the Engineer and with such vigour so that the traffic way be impeded for as short a time as possible.

34.(4) Safety of Public: - The Contractor shall be responsible to take all precautions to ensure the safety of the public whether on public or DFCCIL/Railway property and shall post such look out men as may in the opinion of the Engineer be required to comply with regulations pertaining to the work.

35. Deleted

36.(1) Suspension of works:- The Contractor shall on the order of the Engineer, suspend the progress of the works or any part thereof for such time or times and in such manner as the Engineer may consider necessary and shall during such suspension properly protect and secure the work so far as is necessary in the opinion of the Engineer. If such suspension is: -

- (a) Provided for in the contract, or
- (b) Necessary for the proper execution of the works or by the reason of weather conditions or by some default on the part of the Contractor, and/or
- (c) Necessary for the safety of the works or any part thereof.

36.(2) The Contractor shall not be entitled to the extra costs, if any, incurred by him during the period of suspension of the works, but in the event of any suspension ordered by the Engineer for reasons other than aforementioned and when each such period of suspensions exceeds 14 days, the contractor shall be entitled to such extension of time for completion of the work as the Engineers may consider proper having regard to the period or periods of such suspensions and to such compensations as the Engineer may consider reasonable in respect of salaries or wages paid by the Contractor to his employees during the periods of such suspension.

36.(3) Suspension lasting more than 3 months:- If the progress of the works or any part thereof is suspended on the order of the Engineer for more than three months at a time, the Contractor may serve a written notice on the Engineer requiring permission within 15 days from the receipt thereof to

proceed with the works or that part thereof in regard to which progress is suspended and if such permission is not granted within that time the Contractor by further written notice so served may, but is not bound to, elect to treat the suspension where it affects part only of the works as an omission of such part or where it affects the whole of the works, as an abandonment of the contract by the DFCCIL.

37. Rates for items of works:- The rates, entered in the accepted Schedule of Rates of the Contract are intended to provide for works duly and properly completed in accordance with the general and special (*if any*) conditions of the contract and the specifications and drawings together with such enlargements, extensions, diminutions, reductions, alterations or additions as may be ordered in terms of Clause 42 of these conditions and without prejudice to the generality thereof and shall be deemed to include and cover superintendence and labour, supply, including full freight, of materials, stores, patterns, profiles, moulds, fittings, centring, scaffolding, shoring props, timber, machinery, barracks, tackle, roads, pegs, posts, tools and all apparatus and plant required on the works, except such tools, plant or materials as may be specified in the contract to be supplied to the Contractor by the DFCCIL, the erection, maintenance and removal of all temporary works and, buildings, all watching, lighting, bailing, pumping and draining, all prevention of or compensation for trespass, all barriers and arrangements for the safety of the public or of employees during the execution of works, all sanitary and medical arrangements for labour camps as may be prescribed by the DFCCIL, the setting of all work and of the construction, repair and upkeep of all centre lines, bench marks and level pegs thereon, site clearance, all fees duties, royalties, rent and compensation to owners for surface damage or taxes and impositions payable to local authorities in respect of land, structures and all material supplied for the work or other duties or expenses for which the Contractor may become liable or may be put to under any provision of law for the purpose of or in connection with the execution of the contract, and all such other incidental charges or contingencies as may have been specially provided for in the specifications.

38. Deleted

39.(1) Rates for extra items of works:- Any type of work carried out by the Contractor on the instructions of the Engineer which is not included in the accepted schedules of rates shall be executed at the rates set forth in the “Delhi Schedule of Rates of CPWD” modified by the tender percentage and such items are not contained in the latter, at the rate agreed upon between the Engineer and the Contractor before the execution of such items of work and the Contractors shall be bound to notify the Engineer at least seven days before the necessity arises for the execution of such items of works that the accepted schedule of rates does not include rate or rates for the extra work involved. The rates payable for such items shall be decided at the meeting to be held between the Engineer and Contractor, in as short a period as possible after the need for the special item has come to the notice. In case the Contractor fails to attend the meeting after being notified to do so or in the event of no settlement being arrived at, the DFCCIL shall be entitled to execute the extra works by other means and the Contractor shall have no claim for loss or damage that may result from such procedure.

39.(2) Provided that if the Contractor commences work or incurs any expenditure in regard thereto before the rates as determined and agreed upon as lastly hereunto fore-mentioned, then and in such a case the Contractor shall only be entitled to be paid in respect of the work carried out or expenditure

incurred by him prior to the date of determination of rates as aforesaid according to the rates as shall be fixed by the Engineer. However, if the Contractor is not satisfied with the decision of the Engineer in this respect, he may appeal to the CGM within 30 days of getting the decision of the Engineer, supported by analysis of the rates claimed. The CGM after hearing both the parties in the matter would be final and binding on the Contractor and the DFCCIL.

- 40. (1) Handing over of works:** - The Contractor shall be bound to hand over the works executed under the contract to the DFCCIL complete in all respects to the satisfaction of the Engineer. The Engineer shall determine the date on which the work is considered to have been completed, in support of which his certificate shall be regarded as sufficient evidence for all purposes. The Engineer shall determine from time to time, the date on which any particular section of the work shall have been completed, and the contractor shall be bound to observe any such determination of the Engineer.
- 40.(2) Clearance of site on completion:-** On completion of works, the Contractor shall clear away and remove from the site all constructional plant, surplus materials, rubbish and temporary works of every kind and leave the whole of the site and works clean and in a workman like condition to the satisfaction of the Engineer. No final payment in settlement of the accounts for the works shall be paid, held to be due or shall be made to the, Contractor till, in addition to any other condition necessary for final payment, site clearance shall have been effected by him, and such clearance may be made by the Engineer at the expense of the Contractor in the event of his failure to comply with this provision within 7 days after receiving notice to that effect. Should it become necessary for the Engineer to have the site cleared at the expenses of the Contractor, the DFCCIL shall not be held liable for any loss or damage to such of the Contractor's property as may be on the site and due to such removal there from which removal may be effected by means of public sales of such materials and property or in such a way as deemed fit and convenient to the Engineer.

VARIATIONS IN EXTENT OF CONTRACT

- 41. Modification to contract to be in writing:** - In the event of any of the provisions of the contract requiring to be modified after the contract documents have been signed, the modifications shall be made in writing and signed by the DFCCIL and the Contractor and no work shall proceed under such modifications until this has been done. Any verbal or written arrangement abandoning, modifying, extending, reducing or supplementing the contract or any of the terms thereof shall be deemed conditional and shall not be binding on the DFCCIL unless and until the same is incorporated in a formal instrument and signed by the DFCCIL and the Contractor, and till then the DFCCIL shall have the right to repudiate such arrangements.
- 42.(1) Powers of modification to contract:-** The Engineer on behalf of the DFCCIL shall be entitled by order in writing to enlarge or extend, diminish or reduce the works or make any alterations in their design, character position, site, quantities, dimensions or in the method of their execution or in the combination and use of materials for the execution thereof or to order any additional work to be done or any works not to be done and the contractor will not be entitled, to any compensation for any increase/reduction in the quantities of work but will be paid only for the actual amount of work done and for approved materials supplied against a specific order.

- 42.(2) (i)** Unless otherwise specified in the contract, the accepted variation in quantity of each individual item of the contract would be up to 25% of the quantity originally contracted, except in case of foundation work. The contractor shall be bound to carry out the work at the agreed rates and shall not be entitled to any claim or any compensation whatsoever up to the limit of 25% variation in quantity of individual item of works.
- (ii) In case of earthwork, the variation limit of 25% shall apply to the gross quantity of earth work and variation in the quantities of individual classifications of soil shall not be subject to this limit.
- (iii) In case of foundation work, no variation limit shall apply and the work shall be carried out by the contractor on agreed rates irrespective of any variation.
- 42.(3) Valuation of variations:-** The enlargements, extensions, diminution, reduction, alterations or additions referred to in sub-clause (2) of this clause shall in no degree affect the validity of the contract but shall be performed by the Contractor as provided therein and be subject to the same conditions, stipulations and obligations as if they had been originally and expressly included and provided for in the specifications and drawings and the amounts to be paid therefore shall be calculated in accordance with the accepted schedule of rates. Any extra items / quantities of work falling outside the purview of the provisions of sub-clause (2) above shall be paid for at the rates determined under clause-39 of these conditions.
- 42.(4) Variations in Quantities During Execution of Works Contracts:** -The procedure detailed below shall be adopted for dealing with variations in quantities during execution of works contracts:
1. Individual NS items in contracts shall be operated with variation of plus or minus 25% and payment would be made as per the agreement rate. For this, no finance concurrence would be required.
 2. In case an increase in quantity of an individual item by more than 25% of the agreement quantity is considered unavoidable, the same shall be got executed by floating a fresh tender. If floating a fresh tender for operating that item is considered not practicable, quantity of that item may be operated in excess of 125% of the agreement quantity subject to the following conditions:
 - (a) Operation of an item by more than 125% of the agreement quantity needs the approval of Competent Authority of DFCCIL;
 - (i) Quantities operated in excess of 125% but upto 140% of the agreement quantity of the concerned item, shall be paid at 98% of the rate awarded for that item in that particular tender;
 - (ii) Quantities operated in excess of 140% but upto 150% of the agreement quantity of the concerned item shall be paid at 96% of the rate awarded for that item in that particular tender;
 - (iii) Variation in quantities of individual items beyond 150% will be prohibited and would be permitted only in exceptional unavoidable circumstances with the

concurrence of associate finance and shall be paid at 96% of the rate awarded for that item in that particular tender.

- (b) The variation in quantities as per the above formula will apply only to the Individual items of the contract and not on the overall contract value.
 - (c) Execution of quantities beyond 150% of the overall agreemental value should not be permitted and, if found necessary, should be only through fresh tenders or by negotiating with existing contractor, with prior concurrence of finance and approval of Competent Authority of DFCCIL.
3. In cases where decrease is involved during execution of contract:
- (a) The contract signing authority can decrease the items upto 25% of individual item without finance concurrence.
 - (b) For decrease beyond 25% for individual items or 25% of contract agreement value, the approval of competent authority, after obtaining 'No Claim Certificate' from the contractor and with finance concurrence, giving detailed reasons for each such decrease in the quantities.
 - (c) It should be certified that the work proposed to be reduced will not be required in the same work.
4. The limit for varying quantities for minor value items shall be 100% (*as against 25% prescribed for other items*). A minor value item for this purpose is defined as an item whose original agreement value is less than 1 % of the total original agreement value.
5. No such quantity variation limit shall apply for foundation items.
6. As far as SOR items are concerned, the limit of 25% would apply to the value of SOR schedule as a whole and not on individual SOR items. However, in case of NS items, the limit of 25% would apply on the individual items irrespective of the manner of quoting the rate (*single percentage rate or individual item rate*).
7. **Deleted**
8. **Deleted**
9. **Deleted**
10. The aspect of vitiation of tender with respect to variation in quantities should be checked and avoided. In case of vitiation of the tender (*both for increase as well as decrease of value of contract agreement*), sanction of the competent authority as per schedule of power of DFCCIL as per single tender should be obtained.

Note: Variation to be approved should be limited so as not to completely change the scope, character and purpose of the original contract.

CLAIMS

- 43.(1) Monthly Statement of Claims:-** The Contractor shall prepare and furnish to the Engineer once in every month an account giving full and detailed particulars of all claims for any additional expenses to which the Contractor may consider himself entitled to and of all extra or additional works ordered by the Engineer which he has executed during the preceding month and no claim for payment for and such work will be considered which has not been included in such particulars.
- 43.(2) Signing of “No Claim” Certificate:-** The Contractor shall not be entitled to make any claim whatsoever against the DFCCIL under or by virtue of or arising out of this contract, nor shall the DFCCIL entertain or consider any such claim, if made by the Contractor, after he shall have signed a “No Claim” Certificate in favour of the DFCCIL in such form as shall be required by the DFCCIL after the works are finally measured up. The contractor shall be debarred from disputing the correctness of the items covered by “No Claim” Certificate or demanding a clearance to arbitration in respect thereof.

MEASUREMENTS, CERTIFICATES AND PAYMENTS

- 44. Quantities in schedule annexed to Contract:-** The quantities set out in the accepted schedule of rates with items of works quantified are the estimated quantities of the works and they shall not be taken as the actual and correct quantities of the work to be executed by the Contractor in fulfilment of his obligations under the contract.
- 45.(i) Measurement of works by Railway/DFCCIL:-** The Contractor shall be paid for the works at the rates in the accepted schedule of rates and for extra works at rates determined under Clause 39 of these conditions on the measurements taken by the Engineer or the Engineer’s representative in accordance with the rules prescribed for the purpose by the DFCCIL. The quantities for items the unit of which in the accepted schedule of rates is 100 or 1000 shall be calculated to the nearest whole number, any; fraction below half being dropped and half and above being taken as one; for items the unit of which in the accepted schedule of rates is single, the quantities shall be calculated to two places of decimals. Such measurements will be taken of the work in progress from time to time and at such intervals as in the opinion of the Engineer shall be proper having regard to the progress of works. The date and time on which “on account” or final measurements are to be made shall be communicated to the Contractor who shall be present at the site and shall sign the results of the measurements (*which shall also be signed by the Engineer or the Engineer’s representative*) recorded in the official measurements book as an acknowledgement of his acceptance of the accuracy of the measures. Failing the Contractor’s attendance the work may be measured up in his absence and such measurements shall, notwithstanding such absence, be binding upon the Contractor whether or not he shall have signed the measurement books provided always that any objection made by him to measurement shall be duly investigated and considered in the manner set out below:-
- (a) It shall be open to the Contractor to take specific objection to any recorded measurements or Classification on any ground within seven days of the date of such measurements. Any re-measurement taken by the engineer or the Engineer’s representative in the presence of the

Contractor or in his absence after due notice has been given to him in consequence of objection made by the Contractor shall be final and binding on the Contractor and no claim whatsoever shall thereafter be entertained regarding the accuracy and classification of the measurements.

- (b) If an objection raised by the Contractor is found by the Engineer to be incorrect the Contractor shall be liable to pay the actual expenses incurred in measurements.

45.(ii) Measurement of works by Contractor's Authorized Representative (*In case the Contract provides for the same*) (Authority Railways Board letter no. 2016/CE-I/CT/14/Measurement/2 dated: 21-09-2017)

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

Date and time of test checks shall be communicated to the Contractor, who shall be present at the site and shall witness the test checks, failing Contractor's adherence, the test check may be conducted in his absence and such test checks shall not, withstanding such absence be binding upon Contractor provided always that any objections made by Contractor to test check shall be duly investigated and considered in the manner set out below:

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

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

- (i) On first occasion of noticing, exaggerated/false measurement, Engineer shall impose a penalty of 10% of claimed gross bill value.

- (ii) On any next occasion of noticing any exaggerated/false measurement, Railway/DFCCIL shall impose penalty of 15% of claimed gross bill value. In addition, the facility of recording of measurement by Contractor as well as release of provisional payment shall be withdrawn. Once withdrawn, measurement shall be done by Railway/DFCCIL as per Clause-45(i) above.

46. (1) ‘On-Account’ Payments: - The Contractor shall be entitled to be paid from time to time by way of “One-Account” payment only for such works as in the opinion of the Engineer he has executed in terms of the contract.

All payments due on the Engineer’s or the Engineer’s representative’s certificates of measurements or Engineer’s Certified “Contractor’s Authorized Engineer’s measurements” shall be subject to any deductions which may be made under these presents and shall further be subject to, unless otherwise required by Clause 16 of these conditions, a retention of ten percent by way of security deposits, until the amount of security deposit by way of retained earnest money and such retentions shall amount to 10% of the total value of the contract provided always that the Engineer may by any certificate make any correction or modification in any previous certificate which shall have been issued by him and that the Engineer may withhold any certificate if the works or any part thereof are not being carried out to his satisfaction. (*Authority Railways Board letter no. 2016/CE-I/CT/14/Measurement/2 dated: 21-09-2017*)

46.(2) Rounding off amounts: - The total amount due on each certificate shall be rounded off to the nearest rupee i.e. sum less than 50 paise shall be omitted and sums of 50 paise and more upto Re. 1/- will be reckoned as Re. 1/-.

46.(3) On Account Payments not prejudicial to final settlement:- “On- Account” payments made to the Contractor shall be without prejudice to the final making up of the accounts (*except where measurements are specifically noted in the Measurement Book as “Final Measurements” and as such have been signed by the Contractor Engineer’s/Engineer’s Representative*) and shall in no respect be considered or used as evidence of any facts stated in or to be inferred from such accounts nor of any particular quantity of work having been executed nor of the manner of its execution being satisfactory. (*Authority Railways Board letter no. 2016/CE-I/CT/14/Measurement/2 dated: 21-09-2017*)

46.(4) Manner of payment: Unless otherwise specified payments to the Contractor will be made by cheque/RTGS but no cheque/RTGS will be issued for and amount less than Rs. 100/-

46A PRICE VARIATION CLAUSE:(*Authority Railway GCC 2018*)

46A.1 Applicability: Price Variation Clause (PVC) shall be applicable only in those contracts where tender conditions specifically permits it and irrespective of the contract completion period. Materials supplied free of cost by Railway to the Contractors and any extra item(s) included in subsequent variation falling outside the purview of the Schedule of Items of tender shall fall outside the purview of Price Variation Clause. If, in any case, accepted offer includes some specific payment to be made to consultants or some materials supplied by Railway free or at fixed rate, such payments shall be excluded from the gross value of the work for the purpose of payment/recovery of price variation.

46A.2 Base Month: The Base Month for 'Price Variation Clause' shall be taken as month 28 days prior to opening of tender including extensions, if any, unless otherwise stated elsewhere. The quarter for applicability of PVC shall commence from the month following the month of opening of tender. The Price Variation shall be based on the average Price Index of the quarter under consideration.

46A.3 Validity:

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

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

46A.4 Adjustment for variation in prices of material, labour, fuel, explosives, detonators, steel, concreting, ferrous, non-ferrous, insulators, zinc and cement shall be determined in the manner prescribed.

46A.5 Components of various items in a contract on which variation in prices be admissible, shall be Material, Labour, Fuel, Explosives & Detonators, Steel, Cement, Concreting, Ferrous, Non-ferrous, Insulator, Zinc, Erection etc. However, for fixed components, no price variation shall be admissible.

46A.6 The percentages of labour component, material component, fuel component etc. in various types of Engineering contracts shall be as under:

S. No	Component	E/Work & Minor Bridges Contracts, Ballast Supply Contracts, Tunneling Contracts (without explosive)	Tunneling Contracts (with explosives)	Major and Important Bridges Contracts	Building Contracts	Permanent Way linking Contracts (Manual)	Other Works Contracts
1	Labour Component	20	20	20	40	50	20
2	Other Material Components	10	15	30	35	5	20
3	Plant Machinery & Spares	30	15	20	5	15	30
4	Fuel & Lubricants Component	25	15	15	5	15	15
5	Fixed Component*	15	15	15	15	15	15
6	Detonators & Explosive Component	-	20	-	-	-	-

* It shall not be considered for any price variation.

46A.7 Formulae: The Amount of variation in prices in several components (labour, material etc.) shall be worked out by the following formulae:

- (i) $L = \frac{W \times (L_Q - L_B) \times LC}{L_B \times 100}$
- (ii) $M = \frac{W \times (M_Q - M_B) \times MC}{M_B \times 100}$
- (iii) $F = \frac{W \times (F_Q - F_B) \times F_C}{F_B \times 100}$
- (iv) $E = \frac{W \times (E_Q - E_B) \times E_C}{E_B \times 100}$
- (v) $PM = \frac{W \times (PM_Q - PM_B) \times PM_C}{PM_B \times 100}$
- (vi) $S = \frac{S_W \times (S_Q - S_B)}{S_B}$
- (vii) $C = C_V \times (C_Q - C_B) / C_B$

For Railway Electrification Works:

- (viii) $T = [(C_S - C_O) / C_O \times 0.4136] \times T_C$
- (ix) $R = [(R_T - R_O) / R_O + (Z_T - Z_O) / Z_O \times 0.06] \times R_C$
- (x) $N = [(P_T - P_O) / P_O] \times N_C$
- (xi) $Z = [(Z_T - Z_O) / Z_O] \times Z_C$
- (xii) $I = [(I_T - I_O) / I_T] \times 85$

Where,

- L Amount of price variation in Labour
- M Amount of price variation in Materials
- F Amount of price variation in Fuel
- E Amount of price variation in Explosives
- PM Amount of price variation in Manufacture of machinery for mining, Quarrying and Construction
- S Amount of price variation in Steel
- C Amount of price variation in Cement
- T Amount of price variation in Concreting
- R Amount of price variation in Ferrous Items
- N Amount of price variation in Non-Ferrous Items
- Z Amount of price variation in Zinc
- I Amount of price variation in Insulator
- L_C % of Labour Component
- M_C % of Material Component
- F_C % of Fuel Component
- E_C % of Explosive Component
- PM_C % of Manufacture of machinery for mining, Quarrying and Construction Component

T _C	% of Concreting Component
R _C	% of Ferrous Component
N _C	% of Non-Ferrous Component
Z _C	% of Zinc Component
W	Gross value of work done by Contractor as per on-account bill(s) excluding cost of materials supplied by Railway at fixed price, minus the price values of cement and steel. This will also exclude specific payment, if any, to be made to the consultants engaged by Contractors (such payment shall be indicated in the Contractor's offer)
L _B	Consumer Price Index for Industrial Workers - All India: Published in R.B.I. Bulletin for the base period
L _Q	Consumer Price Index for Industrial Workers - All India: Published in R.B.I. Bulletin for the average price index of the 3 months of the quarter under consideration
M _B	Wholesale Price Index: All commodities – as published in the R.B.I. Bulletin for the base period
M _Q	Wholesale Price Index: All commodities – as published in the R.B.I. Bulletin for the average price index of the 3 months of the quarter under consideration
F _B	Wholesale Price Index for the group Fuel & Power as published in the R.B.I. Bulletin for the base period
F _Q	Index Number of Wholesale Price Index – By Groups and Sub-Groups for the group Fuel & Power as published in the R.B.I. Bulletin for the average price index of the 3 months of the quarter under consideration
E _B	Index number of Monthly Whole Sale Price Index for the category 'Explosive' of (g). Manufacture of other chemical products under (J). MANUFACTURE OF CHEMICALS AND CHEMICAL PRODUCTS, published by Office of Economic Adviser, Govt. of India, Ministry of Commerce & Industry, Department of Industrial Policy & Promotion (DIPP), for the base period.
E _Q	Index number of Monthly Whole Sale Price Index for the category 'Explosive' of (g). Manufacture of other chemical products under (J). MANUFACTURE OF CHEMICALS AND CHEMICAL PRODUCTS, published by Office of Economic Adviser, Govt. of India, Govt. of India, Ministry of Commerce & Industry, Department of Industrial Policy & Promotion (DIPP), for the average price index of 3 months of the quarter under consideration.
PM _B	Index number of Monthly Whole Sale Price Index for the category 'k. Manufacture of machinery for mining, quarrying and construction' under (R) MANUFACTURE OF MACHINERY AND EQUIPMENT, published by Office of Economic Adviser, Govt. of India, Ministry of Commerce & Industry, Department of Industrial Policy & Promotion (DIPP), for the base period.
PM _Q	Index number of Monthly Whole Sale Price Index for the category 'k. Manufacture of machinery for mining, quarrying and construction' under (R) MANUFACTURE OF MACHINERY AND EQUIPMENT, published by Office of Economic Adviser, Govt. of India, Ministry of Commerce & Industry, Department of Industrial Policy & Promotion (DIPP), for the average price index of 3 months of the quarter under consideration.
S _W	Gross value of steel supplied by the Contractor as per the 'on-account' bill for the month under consideration
S _B	Index number of Monthly Whole Sale Price Index for the relevant category of mild steel item as mentioned in Clause 46A.9, published by Office of Economic Adviser, Govt. of India, Ministry of Commerce & Industry Department of Industrial Policy & Promotion (DIPP); for the base period.
S _Q	Index number of Monthly Whole Sale Price Index for the relevant category of mild steel item as mentioned in Clause 46A.9, published by Office of Economic Adviser, Govt. of

	India, Ministry of Commerce & Industry Department of Industrial Policy & Promotion (DIPP); for the average price index of the 3 months of the quarter under consideration.
C _V	Value of Cement supplied by Contractor as per on account bill in the quarter under consideration
C _B	Index No. of Wholesale Price Index of sub-group Cement, Lime & Plaster as published in RBI Bulletin for the base period
C _Q	No. of Wholesale Price Index of sub-group Cement, Lime & Plaster as published in RBI Bulletin for the average price index of the 3 months of the quarter under consideration
C _S	RBI wholesale price index for Cement, Lime & Plaster for the month which is six months prior to date of casting of foundation
C _O	RBI wholesale price index for Cement, Lime & Plaster for the month which is one month prior to date of opening of tender
R _T	IEEMA price index for Iron & Steel for the month which is two months prior to date of inspection of material.
R _O	IEEMA price index for Iron & Steel for the month which is one month prior to date of opening of tender.
P _T	IEEMA price index for Copper wire bar for the month which is two months prior to date of inspection of material.
P _O	IEEMA price index for Copper wire bar for the month which is one month prior to date of opening of tender.
Z _T	IEEMA price index for Zinc for the month which is two months prior to date of inspection of material
Z _O	IEEMA price index for Zinc for the month which is one month prior to date of opening of tender
I _T	RBI wholesale price index for the sub-group “other Portland and Ceramic product” for the month which is two months prior to date of inspection of material
I _O	RBI wholesale price index for the sub-group “other Portland and Ceramic product” for the month which is one month prior to date of opening of tender

46A.8 The demands for escalation of cost shall be allowed on the basis of provisional indices as mentioned above in Clause 46A.7. Any adjustment needed to be done based on the finally published indices shall be made as and when they become available.

46A.9: Relevant categories of steel for the purpose of operating Price Variation formula as mentioned in this Clause shall be as under:

S. No.	Category of Steel Supplied in Railway Work	Category of Steel Items as mentioned in Office of Economic Adviser, Govt. of India, Ministry of Commerce & Industry Department of Industrial Policy & Promotion (DIPP).
1.	Reinforcement bars and other rounds	‘MS Bright Bars’ individual commodity of group item (d) Mild Steel-Long Products under (N) MANUFACTURE OF BASIC METAL.
2.	All types and—sizes of angles, channels and joists-	‘Angles, Channels, Sections, Steel’ individual commodity of group item (d) Mild Steel-Long Products under (N) MANUFACTURE OF BASIC METAL.
3.	All types and sizes of plates	‘e. Mild Steel – Flat Products’ of (N) MANUFACTURER OF BASIC METAL.
4.	Any other section of steel not covered in the above categories and excluding HTS	Average of price for the 3 categories covered under SL 1, 2 & 3 above

46A.10 Price Variation During Extended Period of Contract

The price adjustment as worked out above, i.e. either increase or decrease shall be applicable up to the stipulated date of completion of work including the extended period of completion where such extension has been granted under Clause 17-A, of the Indian Railways Standard General Conditions of Contract, July, 2014. However, where extension of time has been granted due to contractor's failure under Clause 17-B of the Indian Railways Standard General Conditions of Contract, July, 2014 price adjustment shall be done as follow:

- (a) In case the indices increase above the indices applicable to the last month of original completion period or the extended period under clause 17-A, the price adjustment for the period of extension granted under Clause 17-B shall be limited to the amount payable as per the indices applicable to the last month of the original completion period or the extended period under Clause 17- A of the Indian Railways Standard General Conditions of Contract, July, 2014 as the case may be.
- (b) In case the indices fall below the indices applicable to the last month of original/extended period of completion under clause 17-A, as the case may be, then the lower indices shall be adopted for the price adjustment for the period of extension under Clause 17-B of the Indian Railways Standard General Conditions of Contract, July, 2014.

47.0 Maintenance of works:- The Contractor shall at all times during the progress and continuance of the works and also for the period of maintenance specified in the Tender Form after the date of passing of the certificate of completion by the Engineer or any other earlier date subsequent to the completion of the works that may be fixed by the Engineer be responsible for and effectively maintain and uphold in good substantial, sound and perfect condition all and every part of the works and shall make good from time to time and at all times as often as the Engineer shall require, any damage or defect that may during the above period arise in or be discovered or be in any way connected with the works, provided that such damage or defect is not directly caused by errors in the contract documents, act of providence or insurrection or civil riot, and the contractor shall be liable for and shall pay and make good to the DFCCIL or other persons legally entitled thereto whenever required by the Engineer so to do, all losses, damages, costs and expenses they or any of them may incur or be put or be liable to by reasons or in consequence of the operations of the Contractor or of his failure in any respect.

48.(1) Certificate of completion of works:- As soon as in the opinion of the Engineer, the works has been completed and has satisfactorily passed any final test or tests that may be prescribed, the Engineer shall issue a certificate of completion duly indicating the date of completion in respect, of the work and the period of maintenance of the work shall commence from the date of completion mentioned in such certificate. The Engineer may also issue such a certificate indicating date of completion with respect to any part of the work (before the completion of the whole of work), which has been both completed to the satisfaction of the Engineer and occupied or used by the DFCCIL. When any such certificate is given in respect of part of a work, such part shall be considered as completed and the period of maintenance of such part shall commence from the date of completion mentioned in the completion certificate issued for that part of the work.

- 48.(2) Contractor not absolved by completion Certificate:-** The Certificate of completion in respect of the works referred to in sub-clause (1) of this clause shall not absolve the Contractor from his liability to make good any defects imperfections, shrinkages or faults which may appear during the period of maintenance specified in the tender arising in the opinion of the Engineer from materials or workmanship not in accordance with the drawings or specifications or instruction of the Engineer, which defects, imperfections, shrinkages or faults shall upon the direction in writing of the Engineer be amended and made good by the Contractor at his own cost: and in case of default on the part of Contractor the Engineer may employ labour and materials or appoint another Contractor to amend and make good such defects, imperfections, shrinkages and faults and all expenses consequent thereon and incidental thereto shall be borne by the Contractor and shall be recoverable from any moneys due to him under the contract.
- 49.0 Approval only by maintenance Certificate:-** No certificate other than maintenance certificate referred to in Clause 50 of the conditions shall be deemed to constitute approval of any work or other matter in respect of which it is issued or shall be taken as an admission of the due performance of the contract or any part thereof or of the accuracy of any claim or demand made by the Contractor or of additional varied work having been ordered by the Engineer nor shall any other certificate conclude or prejudice any of the powers of the Engineer.
- 50.(1) Maintenance Certificate:** - The Contract shall not be considered as completed until a Maintenance Certificate shall have been signed by the Engineer stating that the works have been completed and maintained to his satisfaction. The Maintenance Certificate shall be given by the Engineer upon the expiration of the period of maintenance or as soon thereafter as any works ordered during such period pursuant to sub clause (2) Clause 48 of these conditions shall have been completed to the satisfaction of the Engineer and full effect shall be given to this Clause notwithstanding the taking possession of or using the works or any part thereof by the DFCCIL.
- 50.(2) Cessation of Railway's / DFCCIL Liability:-** The DFCCIL shall not be liable to the Contractor for any matter arising out of or in connection with the contract of the execution of the works unless the contractor shall have made a claim in writing in respect thereof before the issue of the Maintenance Certificate under this clause.
- 50.(3) Unfulfilled Obligations:-** Notwithstanding the issue of the Maintenance certificate the Contractor and *(subject to sub-clause 2 of this clause)* the DFCCIL shall remain liable for the fulfilment of any obligation incurred under the provision of the contract prior to the issue of the maintenance Certificate which remains unperformed at the time such certificate is issued and for the purposes of determining the nature and extent of any such obligations the contract shall be deemed to remain in force between the parties thereto.
- 51.(1) Final Payment:-** On the Engineer's certificate of completion in respect of the works, adjustment shall be made and the balance of account based on the Engineer or the Engineer's representative's certified measurements or Engineer's certified "Contractor's Authorized Engineer's measurements" of the total quantity of work executed by the contractor upto the date of completion and on the accepted schedule or rates and for extra works on rates determined under Clause 39 of these conditions shall be paid to the

Contractor subject always to any deduction which may be made under these presents and further subject to the Contractor having delivered to the Engineer either a full account in detail of all claims he may have on the DFCCIL in respect of the works or having delivered "No Claim Certificate" and the Engineer having after the receipt of such account given a certificate in writing that such claims are correct, that the whole of the works to be done under the provisions of the Contracts have been completed, that they have been inspected by him since their completion and found to be in good and substantial order, that all properties, works and things, removed, disturbed or injured in consequence of the works have been properly replaced and made good and all expenses and demands incurred by or made upon the DFCCIL for or in the respect of damage or loss by from or in consequence of the works, have been satisfied agreeably and in conformity with the contract. (*Authority Railways Board letter no. 2016/CE-I/CT/14/Measurement/2 dated: 21-09-2017*)

51.(2) Post Payment Audit:- It is an agreed term of contract that the DFCCIL reserves to itself the right to carry out a post-payment audit and or technical examination of the works and the final bill including all supporting vouchers, abstracts etc. and to make a claim on the contractor for the refund any excess amount paid to him if as a result of such examination any over-payment to him is discovered to have been made in respect of any works done or alleged to have been done by him under the contract.

51A. Production of vouchers etc. by the Contractor: -

- (i) For a contract of more than one crore of rupees, the contractor shall, whenever required, produce or cause to be produced for examination by the Engineer any quotation, invoice, cost or other account, book of accounts, voucher, receipt, letter, memorandum, paper of writing or any copy of or extract from any such document and also furnish information and returns verified in such manner as may be required in any way relating to the execution of this contract or relevant for verifying or ascertaining cost of execution of this contract (the decision of the engineer on the question of relevancy of any documents, information or return being final and binding in the parties). The contractor shall similarly produce vouchers; etc., if required to prove to the Engineer, that materials supplied by him, are in accordance with the specifications laid down in the contract.
- (ii) If any portion of the work in a contract of value more than one crore of rupees be carried out by a sub-contractor or any subsidiary or allied firm or company (as per Clause 7 of the General Conditions of Contract), the Engineer shall have power to secure the books of such sub-contractor or any subsidiary or allied firm or company, through the contractor, and such books shall be open to his inspection.
- (iii) The obligations imposed by sub clause (i) & (ii) above is without prejudice to the obligations of the contractor under any statute rules or orders binding on the contractor.

52.0 Withholding and lien in respect of sums claimed:- Whenever any claim or claims for payment of a sum of money arises out of or under the contract against the contractor, the DFCCIL shall be entitled to withhold and also have a lien to retain such sum or sums in whole or in part from the security, if any, deposited by the contractor and for the purpose aforesaid, the DFCCIL shall be entitled to withhold the said cash security deposit or the security if any, furnished as the case may be and also have a lien over the same pending finalization or adjudication of any such claim. In the event of the

security being insufficient to cover the claimed amount or amounts or if no security has been taken from the contractor, the DFCCIL shall be entitled to withhold and have a lien to the extent of the such claimed amount or amounts referred to supra, from any sum or sums found payable or which at any time thereafter may become payable to the contractor under the same contract or any other contract with this or any other DFCCIL or any Department of the Central Government pending finalization or adjudication of any such claim.

It is an agreed term of the contract that the sum of money or moneys so withheld or retained under the lien referred to above, by the DFCCIL will be kept withheld or retained as such by the DFCCIL till the claim arising out of or under the contract is determined by the arbitrator (*if the contract governed by the arbitration clause*) or by the competent court as the case may be and that the contractor will have no claim for interest or damages whatsoever on any account in respect of such withholding or retention under the lien referred to supra and duly notified as such to the contractor. For the purpose of this clause, where the contractor is a partnership firm or a limited company, the DFCCIL shall be entitled to withhold and also have a lien to retain towards such claimed amount or amounts in whole or in part from any sum found payable to any partner/limited company, as the case may be whether in his individual capacity or otherwise.

52A. Lien in respect of claims in Other Contracts: -

- (i) Any sum of money due and payable to the contractor (*including the security deposit returnable to him*) under the contract may be withheld or retained by way of lien by the DFCCIL, against any claim of this or any other DFCCIL or any other Department of the Central Government in respect of a payment of a sum of money arising out of or under any other contract made by the contractor with this or any other Department of the Central Government.
- (ii) However, recovery of claims of DFCCIL in regard to terminated contracts may be made from the Final Bills, Security Deposits and Performance Guarantees of other contract or contracts, executed by the contractor. The Performance Guarantees submitted by the Contractor against other contracts, if required, may be withheld and encashed. In addition, 10% of each subsequent 'on-account bill' may be withheld, if required, for recovery of DFCCIL/Railways' dues against the terminated contract.
- (iii) It is an agreed term of the contract that the sum of money so withheld or retained under this clause by the DFCCIL will be kept withheld or retained as such by the DFCCIL till the claim arising out of or under any other contract is either mutually settled or determined by arbitration, if the other contract is governed by arbitration clause or by the competent court as the case may be and contractor shall have no claim for interest or damages whatsoever on this account or on any other ground in respect of any sum of money withheld or retained under this clause and duly notified as such to the contractor.

53.0 Signature on Receipts for Amounts:- Every receipt for money which may become payable or for any security which may become transferable to the Contractors under these presents, shall, if signed in the partnership name by anyone of the partners of a Contractor's firm be a good and sufficient discharge to the DFCCIL in respect of the moneys or security purported to be acknowledged thereby and in the event of death of any of the Contractor, partners during the pendency of the contract it is

hereby expressly agreed that every receipt by anyone of the surviving Contractor partners shall if so signed as aforesaid be good a sufficient discharge as aforesaid provided that nothing in this clause contained shall be deemed to prejudice or effect any claim which the DFCCIL may hereafter have against the legal representative of any contractor partner so dying for or in respect to any breach of any of the conditions of the contract, provided also that nothing in this clause contained shall be deemed to prejudice or effect the respective rights or obligations of the Contractor partners and of the legal representatives of any deceased Contractor partners interse.

LABOUR

- 54.0 Wages to Labour:** - The Contractor shall be responsible to ensure compliance with the provision of the Minimum Wages Act, 1948 (hereinafter referred to as the “said Act” and the Rules made there under in respect of any employees directly or through petty contractors or subcontractors employed by him on road construction or in building operations or in stone breaking or stone crushing for the purpose of carrying out this contract.

If, in compliance with the terms of the contract, the Contractor supplied any labour to be used wholly or partly under the direct orders and control of the DFCCIL whether in connection with any work being executed by the Contractor or otherwise for the purpose of the DFCCIL such labour shall, for the purpose of this clause, still be deemed to be persons employed by the Contractor.

If any moneys shall, as a result of any claim or application made under the said Act be directed to be paid by the DFCCIL, such money shall be deemed to be moneys paid by it as aforesaid within seven days after the same shall have been demanded, the Railway/DFCCIL shall be entitled to recover the same form any moneys due or accruing to the Contractor under this or any other Contract with the DFCCIL.

- 54A. Apprentices Act:** - The Contractor shall be responsible to ensure compliance with the provisions of the Apprentices Act, 1961 and the Rules and Orders issued there under from time to time in respect of apprentices directly or through petty contractors or sub-contractors employed by him for the purpose of carrying out the Contract.

If the contractor directly or through petty contractors or sub-contractors fails to do so, his failure will be a breach of the contract and the DFCCIL may, in its discretion, rescind the contract. The contractor shall also be liable for any pecuniary liability arising on account of any violation of the provisions of the Act.

Note: The contractors are required to engage apprentices when the works undertaken by them last for a period of one year or more and / the cost of works is rupees one lakh or more.

- 55.0 Provisions of payments of Wages Act:** - The Contractor shall comply with the provisions of the Payment of Wages Act, 1936 and the rules made there under in respect of all employees directly or through petty contractors or sub-contractors employed by him in the works. If In compliance with the terms of the contract, the Contractor directly or through petty contractors of sub-contractors shall supply any labour to be used wholly or partly under the direct orders and control of the Engineer whether in connection with the works to be executed hereunder or otherwise for the purpose

of the Engineer such labour shall never the less be deemed to comprise persons employed by the contractor and any moneys which may be ordered to be paid by the Engineer shall be deemed to be moneys payable by the Engineer on behalf of the Contractor and the Engineer may on failure of the contractor to repay such money to the Railways/DFCCIL deduct the same from moneys due to contractor in the terms of contract. The DFCCIL shall be entitled to deduct from any moneys due to the contractor (*whether under this contract or any other contract*) all moneys paid or payable by the DFCCIL by the way of compensation of aforesaid or for costs of expenses in connection with any claim thereto and the decision of the Engineer upon any question arising out of the effect or force of this clause shall be final and binding upon the Contractor.

55A. Provisions of Contract labour (*Regulation and Abolition*) Act, 1970:

- 55A. (1)** The contractor shall comply with the provision of the contract labour (*Regulation and Abolition*) Act, 1970 and the Contract labour (*Regulation and Abolition*) Central Rules 1971 as modified from time to time, wherever applicable and shall also indemnify the DFCCIL from and against any claims under the aforesaid Act and the Rules.
- 55A. (2)** The Contractor shall obtain a valid licence under the aforesaid Act as modified from time to time before the commencement of the work and continue to have a valid licence until the completion of the work. Any failure to fulfil the requirement shall attract the penal provision of the Contract arising out of the resultant non-execution of the work.
- 55A. (3)** The Contractor shall pay to the labour employed by him directly or through subcontractors the wages as per provision of the aforesaid Act and the Rules wherever applicable. The Contractor shall notwithstanding the provisions of the contract to the contrary, cause to be paid the wages to labour indirectly engaged on the works including any engaged by subcontractors in connection with the said work, as if the labour had been immediately employed by him.
- 55A. (4)** In respect of all labour directly or indirectly employed in the work for performance of the contractor's part of, the contract, the Contractor shall comply with or cause to be complied with the provisions of the aforesaid Act and Rules wherever applicable.
- 55A.(5)** In every case in which, by virtue of the provisions of the aforesaid Act or the Rules, the DFCCIL is obliged to pay any amount of wages to a workman employed by the Contractor or his sub-contractor in execution of the work or to incur any expenditure on account of the Contingent, liability of the DFCCIL due to the contractor's failure to fulfil his statutory obligations under the aforesaid Act or the rules the DFCCIL will recover from the Contractor, the amount of wages so paid or the amount of expenditure so incurred, and without prejudice to the rights of the DFCCIL under the section 20, sub-section (2) and section 2, sub-section (4) of the aforesaid Act, the DFCCIL shall be at liberty to recover such amount or part thereof by deducting it from the security deposit and/ or from any sum due by the DFCCIL to the contractor whether under the contract or otherwise. The DFCCIL shall not be bound to contest any claim made against it under sub-section (1) of section 20 and sub-section (4) of section 21 of the aforesaid Act except on the written request of the contractor and upon his giving to the DFCCIL full security for all costs for which the DFCCIL might become liable in contesting such claim. The decision of the DFCCIL regarding the amount actually recoverable from the contractor as stated above shall be final and binding on the Contractor.

55B. Provisions of Employees Provident Fund and Miscellaneous Provisions Act, 1952:

The Contractor shall comply with the provisions of Para 30 & 36-B of the Employees Provident Fund Scheme, 1952; Para 3 & 4 of Employees' Pension Scheme, 1995; and Para 7 & 8 of Employees Deposit Linked Insurance Scheme, 1976; as modified from time to time through enactment of "Employees Provident Fund & Miscellaneous Provisions Act, 1952", wherever applicable and shall also indemnify the DFCCIL from and against any claims under the aforesaid Act and the Rules.

55C. Contractor is to abide by the provisions of Payment of Wages act & Minimum Wages act in terms of clause 54 and 55 of Indian Railways General Condition of Contract. In order to ensure the same, an application has been developed and hosted on website 'www.shramikkalyan.indianrailways.gov.in'. Contractor shall register his firm/company etc. and upload requisite details of labour and their payment in this portal. These details shall be available in public domain. The Registration/ updation of Portal shall be done as under:

- (a) Contractor shall apply for one-time registration of his company/firm etc. in the Shramikkalyan portal with requisite details subsequent to issue of Letter of Acceptance. Engineer shall approve the contractor's registration in the portal within 7 days of receipt of such request.
- (b) Contractor once approved by any Engineer, can create password with login ID (PAN No.) for subsequent use of portal for all LoAs issued in his favour.
- (c) The contractor once registered on the portal, shall provide details of his Letter of Acceptances (LoA) / Contract Agreements on shramikkalyan portal within 15 days of issue of any LoA for approval of concerned engineer. Engineer shall update (if required) and approve the details of LoA filled by contractor within 7 days of receipt of such request.
- (d) After approval of LoA by Engineer, contractor shall fill the salient details of contract labours engaged in the contract and ensure updating of each wage payment to them on shramikkalyan portal on monthly basis.
- (e) It shall be mandatory upon the contractor to ensure correct and prompt uploading of all salient details of engaged contractual labour & payments made thereof after each wage period.

(ii) While processing payment of any 'On Account bill' or 'Final bill' or release of 'Advances' or 'Performance Guarantee / Security deposit', contractor shall submit a certificate to the Engineer or Engineer's representatives that "I have uploaded the correct details of contract labours engaged in connection with this contract and payments made to them during the wage period in Railway's Shramikkalyan portal at 'www.shramikkalyan.indianrailways.gov.in' till ____ Month, ____ Year."

55-D Provisions of "The Building and Other Construction Workers (Regulation of Employment and Conditions of Service) Act, 1996" and "The Building and Other Construction Workers' Welfare Cess Act, 1996":

The tenderers, for carrying out any construction work, must get themselves registered with the Registering Officer under Section-7 of the Building and Other Construction Workers Act, 1996 and rules made thereto by the concerned State Govt. and submit certificate of Registration, issued from the Registering Officer of the concerned State Govt. (*Labour Dept.*). As per this Act, the tenderer

shall be levied a *cess @1% of cost of construction work*, which would be deducted from each bill. Cost of material, when supplied under a separate schedule item, shall be outside the purview of cess.

- 56.0 Reporting of Accidents of Labour:-** The Contractor shall be responsible for the safety of all employees directly or through petty contractors or sub- contractor employed by him on the works and shall report serious accidents to any of them however and wherever occurring on the works to the Engineer or the Engineers Representative and shall made every arrangements to render all possible assistance.
- 57.0 Provision of Workmen's Compensation Act:-** In every case in which by virtue of the provisions of section 12 sub-section (1) of the Workmen's Compensation Act 1923, DFCCIL is obliged to pay compensation to a workman directly or through petty contractor or subcontractor employed by the Contractor in executing the work, DFCCIL will recover from the Contractor the amount of the compensation so paid, and, without prejudice to the rights of DFCCIL under Section 12 Sub-section (2) of the said Act, DFCCIL shall be at liberty to recover such amount or any part thereof by deducting it from the security deposit or from any sum due by DFCCIL to the Contractor whether under these conditions or otherwise, DFCCIL shall not be bound to contest any claim made against it under Section 12 Sub-section (1) of the said Act except on the written request of the Contractor and upon his giving to DFCCIL full security for all costs for which DFCCIL might become liable in consequence of contesting such claim.
- 57A. Provision of Mines Act:-** The contractor shall observe and perform all the provisions of the Mines Act, 1952 or any statutory modifications or re-enactment thereof for the time being in force and any rules and regulations made there under in respect of all the persons directly or through the petty contractors or sub-contractors employed by him under this contract and shall indemnify the DFCCIL from and against any claims under the Mines Act, or the rules and regulations framed there under, by or on behalf of any persons employed by him or otherwise.
- 58.0 Railway/DFCCIL not to provide quarters for Contractors: -** No quarters shall normally be provided by the DFCCIL for the accommodation of the contractor or any of his staff employed on the work.
- 59.(1) Labour Camps:-** The contractor shall at his own expense make adequate arrangements for the housing, supply of drinking water and provision of latrines and urinals for his staff and workmen, directly or through the petty contractors or sub-contractors and for temporary crèche (*Bal-mandir*) where 50 or more women are employed at a time. Suitable sites on DFCCIL land, if available, may be allotted to the contractor for the erection of labour camps, either free of charge or on such terms and conditions that may be prescribed by the DFCCIL. All camp sites shall be maintained in clean and sanitary conditions by the contractor at his own cost.
- 59.(2) Compliance to rules for employment of labour:-** The contractor(s) shall conform to all laws, by-laws rules and regulations for the time being in force pertaining to the employment of local or imported labour and shall take all necessary precautions to ensure and preserve the health and safety of all staff employed directly or through petty contractors or sub-contractors on the works.

- 59.(3) Preservation of peace:-** The contractor shall take requisite precautions and use his best endeavours to prevent any riotous or unlawful behaviour by or amongst his workmen and other employed directly or through the petty contractors or sub-contractors on the works and for the preservation of peace and protection of the inhabitants and security of property in the neighbourhood of the works. In the event of the DFCCIL requiring the maintenance of a special Police Force at or in the vicinity of the site during the tenure of works, the expenses thereof shall be borne by the contractor and if paid by the DFCCIL shall be recoverable from the contractor.
- 59.(4) Sanitary arrangements:** - The contractor shall obey all sanitary rules and carry out all sanitary measures that may from time to time be prescribed by the Railway Medical Authority and permit inspection of all sanitary arrangements at all times by the Engineer, the Engineer's Representative of the Medical staff of the DFCCIL. Should the contractor fail to make the adequate sanitary arrangements, these will be provided by the DFCCIL and the cost therefore recovered from the contractor.
- 59.(5) Outbreak of infectious disease:** - The contractor shall remove from his camp such labour and their families as refuse protective inoculation and vaccination when called upon to do so by the Engineer or the Engineer's representative on the advice of the DFCCIL. Should cholera, plague or other infectious disease break out, the contractor shall burn the huts, beddings, clothes and other belongings of or used by the infected parties and promptly erect new huts on health sites as required by the engineer, failing which within the time specified in the Engineer's requisition, the work may be done by the DFCCIL and the cost therefore recovered from the contractor.
- 59.(6) Deleted**
- 59.(7) Medical facilities at site:** - The Contractor shall provide medical facilities at the site as may be prescribed by the Engineer on the advice of the DFCCIL in relation to the strength of the Contractor's resident staff and workmen.
- 59.(8) Use of intoxicants:** - The sale of ardent spirits or other intoxicating beverages upon the work or in any of the buildings, encampments or tenements owned, occupied by or within the control of the contractor or any of his employees shall be forbidden and the Contractor shall exercise his influence and authority to the utmost extent to secure strict compliance with this condition.
- 59.(9) Non-employment of female labour:** - The Contractor shall see that the employment of female labour on / in Cantonment areas, particularly in the neighbourhood of soldier's barracks, should be avoided as far as possible.
- 59.(10) Restrictions On The Employment Of Retired Engineers Of Railway/DFCCIL Services Within one Year Of Their Retirement:** The Contractor shall not, if he is a retired Government Engineer of Gazetted rank, himself engage in or employ or associate a retired Government Engineer of Gazetted rank, who has not completed one year from the date of retirement, in connection with this contract in any manner whatsoever without obtaining prior permission of the President and if the Contractor is found to have contravened this provision it will constitute a breach of contract and administration will be entitled to *terminate the contract and forfeit Earnest Money Deposits (EMD), Performance Guarantee (PG) and Security Deposits (SD) of that contract.*

- 60.(1) Non-employment of labours below the age of 15:** - the Contractor shall not employ children below the age of 15 as labourers directly or through petty contractors or subcontractors for the execution of work.
- 60.(2) Medical Certificate of fitness for labour:** - It is agreed that the contractor shall not employ a person above 15 and below 19 years of age for the purpose of execution of work under the contract unless a medical certificate of fitness in the prescribed form (*Proforma at Form No.15*) granted to him by a certifying surgeon certifying that he is fit to work as an adult is obtained and kept in the custody of the contractor or a person nominated by him in this behalf and the person carries with him, while at work; a token giving a reference to such certificate. It is further agreed that the responsibility for having the adolescent examined medically at the time of appointment or periodically till he attains the age of 19 years shall devolve entirely on the contractor and all the expenses to be incurred on this account shall be borne by him and no fee shall be charged from the adolescent or his parent for such medical examination.
- 60.(3) Period of validity of medical fitness certificate:** - A certificate of fitness granted or renewed for the above said purposes shall be valid only for a period of one year at a time. The certifying surgeon shall revoke a certificate granted or renewed if in his opinion the holder of it is, no longer fit for work in the capacity stated therein. Where a certifying surgeon refuses to grant or renew a certificate or revoke a certificate, he shall, if so required by the person concerned, state his reasons in writing for doing so.
- 60.(4) Medical re-examination of labourer:-** Where any official appointed in this behalf by the Ministry of labour is of the opinion that any person employed in connection with the execution of any work under this contract in the age group 15 to 19 years is without a certificate of fitness or is having a certificate of fitness but no longer fit to work in the capacity stated in the certificate, he may serve on the Contractor, or on the person nominated by him in the regard, a notice requiring that such persons shall be examined by a certifying surgeon and such person shall not if the concerned official so directs, be employed or permitted to do any work under this contract unless he has been medically examined and certified that he has been granted a certificate of fitness or a fresh certificate of fitness, as the case may be.

EXPLANATIONS: -

- (1) Only qualified medical practitioners can be appointed as “Certifying Surgeons” and the term “Qualified Medical Practitioners” means a person holding a qualification granted by an authority specified in the Schedule to the Indian Medical Degrees Act, 1916 (*VII to 1916*) or in the Schedule to the Indian Medical Council Act, 1933 (*XXVII*) of 1933.
- (2) The Certifying surgeon may be a medical officer in the service of State or Municipal Corporation.

DETERMINATION OF CONTRACT

- 61.(1) Right of DFCCIL of determine the contract:-** The DFCCIL shall be entitled to determine and terminate the contract at any time should, in the DFCCIL/Railway’s opinion, the cessation of work becomes necessary owing to paucity of funds or from any other cause whatever, in which case the value of approved materials at site and of work done to date by the Contractor will be paid for in

full at the rate specified in the contract. Notice in writing from the DFCCIL of such determination and the reasons therefore shall be conclusive evidence thereof.

61.(2) Payment on determination of contract: - Should the contract be determined under sub clause (1) of this clause and the Contractor claims payment for expenditure incurred by him in the expectation of completing the whole of the work, the Railways /DFCCIL shall admit and consider such claims as are deemed reasonable and are supported by vouchers to the satisfaction of the Engineer. The DFCCIL/Railway's decision on the necessity and propriety of such expenditure shall be final and conclusive.

61.(3) The contractor shall have no claim to any payment of compensation or otherwise, howsoever on account of any profit or advantage which he might have derived from the execution of the work in full but which he did not derive in consequence of determination of contract.

62.(1) Determination of contract owing to default of contractor: - If the Contractor should: -

- (i) Becomes bankrupt or insolvent, or
- (ii) Make an arrangement with of assignment in favour of his creditors, or agree to carry out the contract under a Committee of Inspection of his creditors, or
- (iii) Being a Company or Corporation, go into liquidation (*other than a voluntary liquidation for the purposes of amalgamation or reconstruction*), or
- (iv) Have an execution levied on his goods or property on the works, or
- (v) Assign the contract or any part thereof otherwise than as provided in Clause 7 of these conditions, or
- (vi) Abandon the contract, or
- (vii) Persistently disregard the instructions of the Engineer, or contravene any provision of the contract, or
- (viii) Fail to adhere to the agreed programme of work by a margin of 10% of the stipulated period, or
- (ix) Fail to remove materials from the site or to pull down and replace work after receiving from the Engineer notice to the effect that the said materials or works have been condemned or rejected under clause 25 and 27 of these conditions, or
- (x) Fail to take steps to employ competent or additional staff and labour as required under clause 26 of the conditions
- (xi) Fail to afford the Engineer or Engineer's representative proper facilities for inspecting the work or any part thereof as required under clause 28 of the conditions, or
- (xii) Promise, offer or give any bribe, commission, gift or advantage either himself or through his partner, agent or servant to any officer or employee of the DFCCIL or to any person on his or on their behalf in relation to the execution of this or any other contract with this DFCCIL.

(xiii)(A) At any time after the tender relating to the contract, has been signed and submitted by the Contractor, being a partnership firm admit as one of its partners or employee under it or being an incorporated company elect or nominate or allow to act as one of its directors or employee under it in any capacity whatsoever any retired engineer of the gazetted rank or any other retired gazetted officer working before his retirement, whether in the executive or administrative capacity, or whether holding any pensionable post or not, in the Railways/DFCCIL for the time being owned and administered by the President of India before the expiry of one year from the date of retirement from the said service of such Engineer or Officer unless such Engineer or Officer has obtained permission from the President of India or any officer duly authorized by him in this behalf to become a partner or a director or to take employment under the contract as the case may be, or

(xiii)(B) Fail to give at the time of submitting the said tender: -

- (a) The correct information as to the date of retirement of such retired engineer or retired officer from the said service, or as to whether any such retired engineer or retired officer was under the employment of the Contractor at the time of submitting the said tender, or
- (b) The correct information as to such engineers or officers obtaining permission to take employment under the contractor, or
- (c) Being a partnership firm, the correct information as to, whether any of its partners was such a retired engineer or a retired officer, or
- (d) Being in incorporated company, correct information as to whether any of its directors was such a retired engineer or a retired officer, or
- (e) Being such a retired engineer or retired officer suppress and not disclose at the time of submitting the said tender the fact of his being such a retired engineer or a retired officer or make at the time of submitting the said tender a wrong statement in relation to his obtaining permission to take the contract or if the contractor be a partnership firm or an incorporated company to be a partner or director of such firm or company as the case may be or to seek employment under the contractor.

Then and in any of the said clause, the Engineer on behalf of the DFCCIL may serve the Contractor with a notice (Proforma at Form No.16) in writing to that effect and if the contractor does not within seven days after the delivery to him of such notice proceed to make good his default in so far as the same is capable of being made good and carry on the work or comply with such directions as aforesaid of the entire satisfaction of the Engineer, the DFCCIL shall be entitled after giving 48 hours notice (*Proforma at Form No. 17*) in writing under the hand of the Engineer to rescind the contract as a whole or in part or parts (*as may be specified in such notice*) and after expiry of 48 hours notice, a final termination notice (*Proforma at Form No. 18*) should be issued and adopt the following courses:

To measure up or the whole or part of the work from which the contractor has been removed and get it completed by another contractor, the manner and method in which such work is completed shall be in the entire discretion of the Engineer whose decision shall be final.

62.(2) Right of DFCCIL after, rescission of contract owing to default of contractor:

In the event of any or several of the courses, referred to in sub-clause (1) of the clause, being adopted.

- (a) The contractor shall have no claim to compensation for any loss sustained by him by reason of his having purchased or procured any materials or entered into any commitments or made any advances on account of or with a view to the execution of the works or the performance of the contract and contractor shall not be entitled to recover or be paid any sum for any work thereto for actually performed under the contract unless and until the Engineer shall have certified the performance of such work and the value payable in respect thereof and the contractor shall only be entitled to be paid the value so certified.
- (b) The Engineer or the Engineer's representative shall be entitled to take possession of any materials, tools, implements, machinery and buildings on the works or on the property on which these are being or ought to have been executed, and to retain and employ the same in the further execution of the works or any part thereof until the completion of the works without the contractor being entitled to any compensation for the use and employment thereof or for wear and tear or destruction thereof.
- (c) The Engineer shall as soon as may be practicable after removal of the contractor fix and determine ex-parte or by or after reference to the parties or after such investigation or enquiries as he may consider fit to make or institute and shall certify what amount (*if any*) had at the time of rescission of the contract been reasonably earned by or would reasonably accrue to the contractor in respect of the work then actually done by him under the contract and what was the value of any unused, or partially used materials, any constructional plan and any temporary works upon the site. The legitimate amount due to the contractor after making necessary deductions and certified by the Engineer should be released expeditiously.

STATEMENT OF DISPUTES - INDIAN RAILWAY ARBITRATION RULES

63.0 Matters finally determined by the DFCCIL – All disputes and differences of any kind whatsoever arising out of or in connection with the contract, whether during the progress of the work or after its completion and whether before or after the determination of the contract, shall be referred by the contractor to the Director/General Manager/CGM, DFCCIL and the Director/General Manager/CGM, DFCCIL shall within 120 days after receipt of the contractor's representation make and notify decisions on all matters referred to by the contractor in writing provided that matter for which provision has been made in clauses 8, 18, 22.(5), 39, 43.(2), 45.(a), 55, 55A.(5), 57, 57A, 61.(1), 61.(2) and 62.(1) to (xiii)(B) of General Conditions of contract or in any special clause of the conditions of the contract shall be deemed as 'excepted matters' (*matters not arbitrable*) and decisions of the DFCCIL authority, thereon shall be final and binding on the contractor; provided further that '*excepted matters*' shall stand specifically excluded from the purview of the arbitration clause.

64. (1) Demand for Arbitration: - (*Amended vide Rly Board letter no. 2015/CE-I/CT/ARB/18 dated: 16-11-2016*)

- 64.(1)(i)** In the event of any dispute or difference between the parties hereto as to the construction or operation of this contract, or the respective rights and liabilities of the parties on any matter in question, dispute or difference on any account or as to the withholding by the DFCCIL of any certificate to which the contractor may claim to be entitled to, or if the DFCCIL fails to make a decision within 120 days, then and in any such case, but except in any of the excepted matters' referred to in clause 63 of these conditions, the contractor, after 120 days but within 180 days of his presenting his final claim on disputed matters shall demand in writing that the dispute or difference be referred to arbitration.
- 64.(1) (ii)(a)** The demand for arbitration shall specify the matters which are in question, or subject of the dispute or difference as also the amount of claim item wise. Only such dispute or difference, in respect of which the demand has been made, together with counter claims or set off, given by the DFCCIL, shall be referred to arbitration and other matters shall not be included in the reference.
- 64.(1) (ii)(b)** The parties may waive off the applicability of sub-section- 12(5) of arbitration and conciliation (*Amendment*) Act- 2015. If they agree for such waiver, in writing, after dispute having arisen between them, in the format given under Annexure-12 of these conditions.
- 64.(1) (iii)**
- (a) The arbitration proceedings shall be assumed to have commenced from the day, a written and valid demand for arbitration is received by the DFCCIL.
 - (b) The claimant shall submit his claim stating the facts supporting the claims along with all the relevant documents and the relief or remedy sought against each claim within a period of 30 days from the date of appointment of the Arbitral Tribunal.
 - (c) The DFCCIL shall submit its defence statement and counter claim(s), if any, within a period of 60 days of receipt of copy of claims from Tribunal thereafter, unless otherwise extension has been granted by Tribunal.
 - (d) The place of arbitration would be New Delhi.
- 64.(1)(iv)** No new claim shall be added during proceedings by either party. However, a party may amend or supplement the original claim or defence thereof during the course of arbitration proceedings subject to acceptance by Tribunal having due regard to the delay in making it.
- 64.(1)(v)** If the contractor(s) does/do not prefer his/their specific and final claims in writing, within a period of 90 days of receiving the intimation from the Railways/DFCCIL that the final bill is ready for payment, he/they will be deemed to have waived his/their claim(s) and the Railways/DFCCIL shall be discharged and released of all liabilities under the contract in respect of these claims.
- 64.(2) Obligation During Pendency of Arbitration:**– Work under the contract shall, unless otherwise directed by the Engineer, continue during the arbitration proceedings, and no payment due or payable by the DFCCIL shall be withheld on account of such proceedings, provided, however, it shall be open for Arbitral Tribunal to consider and decide whether or not such work should continue during arbitration proceedings.

64.(3) Appointment of arbitrator

64.(3)(a) Appointment of Arbitrator where applicability of Section-12(5) of Arbitration and Conciliation Act has been waived off.

64.(3)(a)(i) In cases where the total value of all claims in question added together does not exceed Rs.1,00,00,000 (*Rupees One Crore only*), the Arbitral tribunal shall consist of a sole arbitrator nominated by the MD/DFCCIL. The sole arbitrator shall be appointed within 60 days from the day when a written and valid demand for arbitrator is received by MD/DFCCIL.

64.(3)(a)(ii) In cases not covered by the clause 64(3)(a)(i), the Arbitral Tribunal shall consist of a Panel of three officials, as the arbitrators. For this purpose, the DFCCIL will send a panel of at least four (4) names of DFCCIL officers which may also include the name(s) of Officer(s) empanelled to work as Arbitrator to the contractor within 60 days from the day when a written and valid demand for arbitration is received by the MD/DFCCIL. Contractor will be asked to suggest to MD/DFCCIL at least 2 names out of the panel for appointment as contractor's nominee within 30 days from the date of dispatch of the request by Railway /DFCCIL. The MD/DFCCIL shall appoint at least one out of them as the contractor's nominee and will, also simultaneously appoint the balance number of arbitrators either from the panel or from outside the panel, duly indicating the 'presiding arbitrator' from amongst the 3 arbitrators so appointed. MD/DFCCIL shall complete this exercise of appointing the Arbitral Tribunal within 30 days from the receipt of the names of contractor's nominees. While nominating the arbitrators it will be necessary to ensure that one of them is from the Accounts department. An officer of selection grade of accounts department shall be considered of equal status to the officers in SA grade of other department of DFCCIL for the purpose of appointment of arbitrator.

64.(3) (b) Appointment of Arbitrator where applicability of Section-12(5) of A & C Act has not been waived off.

The Arbitral tribunal shall consist of a panel of three (3) retired Railways/DFCCIL officers (*as appointed by MD/DFCCIL*) as Arbitrators. For this purpose, DFCCIL will send a panel of at least four (4) names of retired Railways/DFCCIL officers empanelled to work as Railway/DFCCIL's Arbitrator duly indicating their retirement date to the Contractor within 60 days from the day when a written and valid demand is received by MD/DFCCIL.

Contractor will be asked to suggest MD/DFCCIL at least two names out of the panel for appointment as Contractor's nominee within 30 days from the date of dispatch of the request by Railway/DFCCIL. The MD/DFCCIL shall appoint at least one out of them as the Contractor's nominee and will also simultaneously appoint the balance number of Arbitrator either from the panel or from outside the panel, duly indicating the presiding arbitrator from amongst the three arbitrators so appointed. MD/DFCCIL shall complete the exercise of appointing the arbitral tribunal within 30 days from the receipt of the names of Contractor's nominees. While nominating the arbitrators, it will be necessary to ensure that one of them has served in the Accounts Department.

64.(3)(c)(i) If one or more of the arbitrators appointed as above refuses to act as arbitrator, withdraws from his office as arbitrator, or vacates his/their office/offices or is/are unable or unwilling to perform his functions as arbitrator for any reason whatsoever or dies or in the opinion of the MD/DFCCIL fails to act without undue delay, the MD/DFCCIL shall appoint new arbitrator/arbitrators to act in his/their place in the same manner in which the earlier arbitrator/arbitrators had been appointed. Such re-constituted Tribunal may, at its discretion, proceed with the reference from the stage at which it was left by the previous arbitrator(s).

64.(3) (c) (ii):(a) The arbitral Tribunal shall have power to call for such evidence by way of affidavits or otherwise as the arbitral Tribunal shall think proper, and it shall be the duty of the parties hereto to do or cause to be done all such things as may be necessary to enable the arbitral Tribunal to make the award without any delay. The proceedings shall normally be conducted on the basis of documents and written statements.

(b) Before proceeding into the merits of any dispute, the arbitral tribunal shall first decide and pass its order over any plea submitted/objections raised by any party, if any, regarding appointment of arbitral tribunal, validity of arbitration agreement, jurisdiction and scope of tribunal to deal with the dispute(s), submitted to arbitration, applicability of time 'limitation' to any dispute, any violation of agreed procedure regarding conduct of arbitral proceeding or plea for interim measures of protection and record its order in day to day proceedings. A copy of the proceedings duly signed by all the members of tribunal should be provided to both the parties.

64.(3)(c)(iii)(i): Qualification of Arbitrators

(a) Serving Railways/DFCCIL officers of not below JA Grade/JGM level.

(b) Retired Railways/DFCCIL officers not below SA Grade/GM level, 3 years after his date of retirement.

(c) Age of Arbitrator at the time of appointment shall be below 70 years.

64.(3) (c) (iii) (ii):

An Arbitrator may be appointed notwithstanding the total number of arbitration cases, in which he has been appointed in the past.

While appointing arbitrator(s) under sub-clause 64.(3)(a)(i), 64.(3)(a)(ii) & 64.(3)(b) above, due care shall be taken that he/they is/are not the one/those who had an opportunity to deal with the matters to which the contract relates or who in the course of his/their duties as DFCCIL servant(s) expressed views on all or any of the matters under dispute or differences. The proceedings of the arbitral Tribunal or the award made by such Tribunal will, however, not be invalid merely for the reason that one or more arbitrator had, in the course of his service, opportunity to deal with the matters to which the contract relates or who in the course of his/their duties expressed views on all or any of the matters under dispute.

64.(3)(d)(i) The arbitral award shall state item wise, the sum and reasons upon which it is based. The analysis and reasons shall be detailed enough so that the award could be inferred therefrom.

64.(3)(d)(ii) A party may apply for corrections of any computational errors, any typographical or clerical errors or any other error of similar nature occurring in the award of a tribunal and interpretation of a specific point of award to tribunal within 60 days of receipt of the award.

64.(3) (d) (iii) A party may apply to tribunal within 60 days of receipt of award to make an additional award as to claims presented in the arbitral proceedings but omitted from the arbitral award.

64.(4) In case of the Tribunal, comprising of three Members, any ruling on award shall be made by a majority of Members of Tribunal. In the absence of such a majority, the views of the Presiding Arbitrator shall prevail.

64.(5) Where the arbitral award is for the payment of money, no interest shall be payable on whole or any part of the money for any period till the date on which the award is made.

64.(6)(a) The cost of arbitration shall be borne by the respective parties. The cost shall inter-alia include fee of the arbitrator(s), as per the rates fixed by the DFCCIL from time to time and the fee shall be borne equally by both the parties. Provided parties signed an agreement in the format given at Annexure-II to these conditions after/while referring this dispute to arbitration. Further, the fee payable to the arbitrators would be governed by instructions issued on the subject by Railway Board from time to time. Irrespective of the fact whether the arbitrator(s) is/are appointed by Railways Administration/DFCCIL or by the Court of Law unless specifically directed by Hon'ble Court otherwise on the matter.

64.(6)(b)(i) Sole Arbitrator shall be entitled for 25% extra fee over the fee prescribed by Railways Board/DFCCIL from time to time.

64.(6) (b) (ii) Arbitrator Tribunal shall be entitled for 50% extra fee, if the award is decided within 6 months.

64(7) Subject to the provisions of the aforesaid Arbitration and Conciliation Act 1996 and the rules there under and relevant para of General Conditions of Contract (GCC) and any statutory modifications thereof shall apply to the appointment of arbitrator and arbitration proceedings under this clause.

JOINT VENTURE (JV) FIRMS IN WORKS TENDERS

65.0 Participation of Joint Venture (JV) Firms in Works Tender: This Clause shall be applicable for works tenders of value as approved and communicated by Railway Board /DFCCIL from time to time.

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

65.2 Number of members in a JV Firm *shall not be more than three.*

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

65.4 The tender form shall be purchased and submitted only in the name of the JV Firm and not in the name of any constituent member.

- 65.5 Normally Earnest Money Deposit (*EMD*) shall be submitted only in the name of the JV Firm and not in the name of constituent member. However, in exceptional cases, EMD in the name of lead member can be accepted subject to submission of specific request letter from lead member stating the reasons for not submitting EMD in the name of JV Firm and giving written confirmation from JV members to the effect that EMD submitted by the lead member may be deemed as EMD submitted by JV Firm.
- 65.6 One of the members of the JV Firm shall be its Lead Member who shall have a majority (*at least 51%*) share of interest in the JV Firm and also, must have satisfactorily completed in the last three previous financial years and the current financial year upto the date of opening of the tender, one similar single work for a minimum value as defined in technical eligibility criteria. The other members shall have a share of not less than 20% each in case of JV Firms with upto three members. In case of JV Firm with foreign member(s), the Lead Member has to be an Indian Firm with a minimum share of 51%.
- 65.7 A copy of Memorandum of Understanding (MoU) executed by the JV members shall be submitted by the JV Firm along with the tender. The complete details of the members of the JV Firm, their share and responsibility in the JV Firm etc. particularly with reference to financial, technical and other obligations shall be furnished in the MOU. (*The MOU format for this purpose is enclosed along with the tender, Form No. 9*).
- 65.8 Once the tender is submitted, the MoU shall not be modified / altered / terminated during the validity of the tender. In case the tenderer fails to observe/comply with this stipulation, ***the full Earnest Money Deposit (EMD)*** shall be liable to be ***forfeited***.
- 65.9 Approval for change of constitution of JV Firm shall be at the sole discretion of the Employer (*Railways /DFCCIL*). The constitution of the JV Firm shall not be allowed to be modified after submission of the tender bid by the JV Firm, except when modification becomes inevitable due to succession laws etc. and in any case the minimum eligibility criteria should not get vitiated. However, the Lead Member shall continue to be the Lead Member of the JV Firm. Failure to observe this requirement would render the ***offer invalid***.
- 65.10 Similarly, after the contract is awarded, the constitution of JV Firm shall not be allowed to be altered during the currency of contract except when modification become inevitable due to succession laws etc. and in any case the minimum eligibility criteria should not get vitiated. Failure to observe this stipulation shall be deemed to be breach of contract with all consequential penal action as per contract conditions.
- 65.11 On award of contract to a JV Firm, a single Performance Guarantee shall be submitted by the JV Firm as per tender conditions. All the Guarantees like Performance Guarantee, Bank Guarantee for Mobilization Advance, Machinery Advance etc. shall be accepted only in the name of the JV Firm and no splitting of guarantees amongst the members of the JV Firm shall be permitted.
- 65.12 On issue of LOA (*Letter Of Acceptance*), an agreement among the members of the JV Firm (*to whom the work has been awarded*) shall be executed and got registered before the Registrar of the Companies under Companies Act or before the Registrar/Sub-Registrar under the Registration Act, 1908. This JV

Agreement shall be submitted by the JV Firm to the Railways/ DFCCIL before signing the contract agreement for the work. In case the tenderer fails to observe/comply with this stipulation, the full ***Earnest Money Deposit (EMD) shall be forfeited*** and other penal actions due shall be taken against partners of the JV and the JV. This Joint Venture Agreement shall have, inter-alia, following Clauses:

65.12.1 Joint and Several Liability - Members of the JV Firm to which the contract is awarded, shall be jointly and severally liable to the Employer (*Railways /DFCCIL*) for execution of the project in accordance with General and Special Conditions of Contract. The JV members shall also be liable jointly and severally for the loss, damages caused to the Railways / DFCCIL during the course of execution of the contract or due to non-execution of the contract or part thereof.

65.12.2 Duration of the Joint Venture Agreement - It shall be valid during the entire currency of the contract including the period of extension, if any and the defect liability period after the work is completed.

65.12.3 Governing Laws - The Joint Venture Agreement shall in all respect be governed by and interpreted in accordance with Indian Laws.

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

65.14 No member of the Joint Venture Firm shall have the right to assign or transfer the interest right or liability in the contract without the written consent of the other members and that of the employer (Railways/DFCCIL) in respect of the said tender/contract.

65.15 Documents to be enclosed by the JV Firm along with the tender:

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

- (a) Notary certified copy of the Partnership Deed,
- (b) Consent of all the partners to enter into the Joint Venture Agreement on a stamp paper of appropriate value (*in original*).
- (c) Power of Attorney (*duly registered as per prevailing law*) in favour of one of the partners of the partnership firm to sign the JV Agreement on behalf of the partnership firm and create liability against the firm.

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

Affidavit on Stamp Paper of appropriate value declaring that his/her Concern is a Proprietary Concern and he/she is sole proprietor of the Concern OR he/she is in position of "KARTA" of Hindu Undivided

Family (HUF) and he/she has the authority, power and consent given by other partners to act on behalf of HUF.

65.15.3 In case one or more members is/are limited companies, the following documents shall be submitted:

- (a) Notary certified copy of resolutions of the Directors of the Company, permitting the company to enter into a JV agreement, authorizing MD or one of the Directors or Managers of the Company to sign JV Agreement, such other documents required to be signed on behalf of the Company and enter into liability against the company and/or do any other act on behalf of the company.
- (b) Copy of Memorandum and Articles of Association of the Company.
- (c) Power of Attorney (*duly registered as per prevailing law*) by the Company authorizing the person to do/act mentioned in the para (a) above.

65.15.4 All the members of JV shall certify that they are not ***black-listed or debarred*** by Railways or any other Ministry/Department/PSU (*Public Sector Undertaking*) of the Govt. of India/ State Govt. from participation in tenders/contracts on the date of opening of the Bid either in their individual capacity or as member of JV Firm in which they work or are members.

65.16 Credentials & Qualifying Criteria: Technical and financial eligibility of the JV Firm shall be adjudged based on satisfactory fulfillment of the following criteria:

65.16.1 Technical Eligibility Criteria: As defined in Preamble and General Instructions to tenderers.

65.16.2 Financial Eligibility Criteria: As defined in Preamble and General Instructions to tenderers.

Annexure-(XII)

**Agreement towards Wavier under section 12 (5) and section 31-A(5) of
Arbitration and conciliation (Amendment) Act**

I/We..... (*Name of agency/contractor*) with reference to agreement no raise dispute as to the construction and operation of this contract, or the respective rights and liabilities, withholding of certificate and demand arbitration in respect of following claims:

Brief of claim:

- (i) Claim 1- Detailed at Annexure-
- (ii) Claim 2-
- (iii) Claim 3-

I/We..... (*Post of Engineer*) with reference to agreement no..... hereby raise disputes as to the construction and operation of this contract, or the respective rights and liabilities, withholding of certificate and demand arbitration in respect of following claims:

I/We.....do/do not agree to waive off applicability of section 12(5) of Arbitration and Conciliation (Amendment) Act.

Signature of claimant..... Signature of Respondent.....

Agreement under section 31(5)

I/We (*name of claimant*) with reference to agreement no hereby waive off the applicability of sub section 31-A to 31-A (4) of the Arbitration and Conciliation (Amendment) Act. We further agree that the cost of arbitration will be shared by the parties as per clause 64(6) of GCC.

Signature of claimant.....signature of Respondent.....

Strike out whichever not applicable.

Certification by Arbitrators appointed under Clauses 63 & 64 of Indian Railways General Conditions of Contractor

1. Name:
2. Contact Details:
3. Prior Experience (Including Experience with Arbitrators):
- 4. I do not have more than five on-going Arbitration cases with me.**
5. I hereby certify that I have retired from Railways w.e. f.....and empaneled as Railway Arbitrator as per "The Arbitration and Conciliation Act-1966".
6. I have no any past or present relationship in relation to the subject matter in dispute, whether financial, business, professional or other kind.

Or

I have past or present relationship in relation to the subject matter in dispute, whether financial, business, professional or other kind. The list of such interests is as under:

7. 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-1966.

Or

I have 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-1966. The details of such relationship or interests are as under:

8. There are no concurrent Circumstances which are likely to affect my ability to devote sufficient time to the arbitration and in particular to finish the entire arbitration within twelve months.

Or

There are Circumstances which are likely to affect my ability to devote sufficient time to the arbitration and in particular to finish the entire arbitration within twelve months. The list of such circumstances is as under:

Part- I
Chapter-V
Special Conditions of Contract

PART-I CHAPTER-V

SPECIAL CONDITIONS OF CONTRACT

SPECIAL CONDITIONS (SECTION-1)

Note: *The Special Conditions of contract (SCC) should be read in conjunction with the General Conditions of Contract (GCC). However, if there is any provision in the GCC, which is at variance with the provisions in SCC, the provisions in the Special Conditions of Contract (SCC) shall take precedence.*

5.1 TEMPORARY WORKERS' HOUSING:

- 5.1.1 The bidder himself shall construct clean hygienic and well-ventilated labour housing with adequate water supply, electrical, sanitation facilities, etc as per “Model Rules for the Protection of Health and Sanitary Arrangement for the Workers Employed by the Contractors” of General Conditions of Contract, or applicable Labour Regulations.
- 5.1.2 The contractor has to arrange for the labour passes for entry and exit of labourers at the work site.
- 5.1.3 Adequate number of temporary housing units shall be constructed within two months of the date of start of work to the satisfaction of Engineer.
- 5.1.4 Toilet blocks having WC, wash basin and bathing area @ one set for approximately 15 labours with arrangement for sewage disposal through ready to install adequate capacity septic tank units shall be made available along with the labour huts.
- 5.1.5 These housing units can be inspected by Engineer and contractor will be allowed to take up main work only after satisfactory completion of these units.
- 5.1.6 *No extra payment shall be made by DFCCIL for construction of such temporary labour housing.*

5.2 Deleted

5.3 Procurement of fly ash, lime, AAC, gypsum bricks

- 5.3.1 The work involves RCC framed construction with filler walls. The brick work shall be carried out with good quality AAC Block/ FPS/Fly Ash Lime Gypsum (FALG) bricks of class designation as per BOQ with cement, sand mortar of mix or adhesive as per BOQ & as per CPWD Specifications.
- 5.3.2 The contractor will have to plan in advance manufacturing / sourcing of AAC blocks/FPS bricks in sufficient quantity to have a stock of 15 days requirement at all the times during the masonry construction phase.

5.3.3 Deleted

5.4 Deleted

5.5 Tool and Plants

The required T&P shall be brought to site well in advance so as to ensure the progress of the work as per the contract / schedule.

5.6 Technical Staff:

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 according to progress of work as decided by Engineer/DFCCIL.

Requirement of technical representative(s)				
S.N.	Minimum Qualification of Technical Representative	Designation of Technical Staff	Minimum experience	Number
1.	Graduate Engineer	Project Manager	15 years (and having experience of one similar nature of work)	1 No.
3.	Graduate Engineer or Diploma Engineer	Project/Site Engineer	5 Years or 10 Years respectively	3 Nos.
4.	Graduate Engineer	Quality Engineer	8 Years	1 No.
6.	Graduate Engineer	Project Planning/Billing Engineer	6 Years	1 No.
7.	Graduate Engineer/ Diploma	SHE Engineer	6 Years	1 No.

5.7 Compliance with GRIHA Guidelines

Tenderer is advised to note that entire work shall be carried out in such a manner so as to satisfy Green building parameters / GRIHA guidelines. Conditions of Contract specific to Green Building Practices have been narrated in Special Conditions for Green Building Practices (*Part-I, Chapter-V, Section-4 & 5*).

5.8 Defects Liability Period (DLP)

5.8.1 Defects liability period shall be taken as **twelve months** from the date of completion of the work for building as a whole, wherein all the defects shall be rectified by the contractor at his own cost.

For specialized works such as water proofing etc, the defect liability period shall be for a minimum period of 10 years, in which:

- The contractor shall be fully responsible for and shall guarantee proper performance of the entire waterproofing system for a period of 10 (Ten) years from the final completion of works. For this, a specific 10 years written guarantee (*to be furnished in a non-judicial stamp paper of value*

not less than Rs.100/-) in the prescribed proforma (**Form No.24**) shall be submitted for the performance of the system before final payment and shall not in any way limit any other rights the Employer may have under the contract. All water-proofing work shall be carried out through specialized agency as per method of working approved by the Engineer. However, the contractors shall be solely responsible for waterproofing treatment until the expiry of the above guarantee period.

- b. In addition, **10% (ten percent) of the cost of these items of water proofing under this sub head shall be retained as guarantee to watch the performance of the work executed.** However, if the performance of the waterproofing works is found satisfactory, then, half of this amount (*withheld*) would be released after five years from the date of completion of the work & the remaining withheld amount, shall be released after completion of ten years from the date of completion of work (*if the performance of the waterproofing work is found satisfactory*).

However, if any defect is noticed during the guarantee period, it would need to be rectified by the contractor within seven days of issuing of notice by the Engineer / DFCCIL and, if not attended to, the same shall be got done through other agency at the risk and cost of the contractor and recovery shall be effected from the amount retained towards guarantee. In any case, the contractor and the specialized agency, during the guarantee period, shall inspect and examine the treatment once in every year and make good any defect observed and confirm the same in writing to DFCCIL. The security deposit can be released in full, if bank guarantee of equivalent amount, valid for the duration of guarantee period is produced and deposited with the Department.

- 5.8.2 Defects of serious nature causing inconvenience such as leakage, reverse floor slopes affecting the drainage (*ponding of water*), *warping and opening of joints in doors and window shutters, etc, shall be undertaken by the contractor* immediately on receipt of the complaint but not exceeding one week time, failing which, the defects will be got removed at his risk and **cost plus 25%** as supervision and establishment charges.
- 5.8.3 All other defects notified to the contractor during the DLP shall be rectified to the entire satisfaction of Engineer or item replaced as soon as possible but not beyond one month failing which, Engineer shall get it done at his cost plus 25% as supervision and establishment charges. **The decision of Engineer regarding a defect being of serious nature or otherwise shall be final and binding.**
- 5.8.4 Contractor shall undertake the comprehensive maintenance of first year after the certified date of completion of the buildings constructed or services provided in the building and shall include all labour material, T&P etc., required to attend any complaint lodged by the DFCCIL. The contractor shall make all the arrangement for receiving and recording the complaints through a maintenance cell & land for construction of site office and storage of material shall be provided by DFCCIL in the campus.

The scope of the defect liability will be as under (as applicable):

S. No	Description	Defect Liability
(i)	Concrete	(a) Rectification of structural /superficial/non-structural cracks. (b) Rectification of dampness/leakages/seepage in roof slab/junctions & sunken portion, depressed portion, through RCC slab, vertical ties, bands, walls, base slab, junction of RCC walls with base slab and construction joints of RCC water tanks. (c) Rectification of cracks in beam, slab, column, lintels, vertical ties, plinth bands, lintel bands etc.
(ii)	Brick work	(a) Rectification of cracks in confined masonry panel wall / partition wall in full length or in part portion. (b) Cracks / settlement of main wall, partition wall or dwarf walls. (c) Rectification of efflorescence, dampness.
(iii)	Woodwork & Joinery	(a) Replacement of warped / bent / weather affected joinery, termite & borer affected joinery of wooden door / window shutters and frames. (b) Cracks in panels, bars / rails / styles of wooden door / window shutters etc.
(iv)	Builders Hardware	(a) Repairs / Replacement of loosened / premature failure of fittings including lever mechanics in door locks, hydraulic door closers, handles, tower bolts, cupboard locks etc. (b) Tightening / Replacement of sag in mosquito proofing SS net.
(v)	Steel & iron work/u-PVC work	(a) Rectification / Replacement of defective part of gate, shutter, etc. (b) Redoing of defective portion in fabrication / welding including painting thereon. (c) Structural steel work and MS railing. (d) Windows, grills, gates etc.
(vi)	Roof treatment	(a) Rectification of leakage / seepage in roof slab, expansion/ seismic joints, floor junctions, inadequate/ faulty slope, drain outlets, including covering at junction till guarantee period.
(vii)	Finishing	(a) Rectification of structural / superficial cracks. (b) Rectification of protruding / peeling off plaster. (c) Rectification of efflorescence, dampness appeared. (d) Undulation / unevenness in plaster. (e) Paint & polishing.
(viii)	Flooring	(a) Rectification of sunken / deflected / depressed portion of plinth protection, flooring in rooms, toilets, entrance foyer, staircase and other locations. (b) Rectification / Replacement of settled floors. (c) Settlement of foundation & floors and resultant undulation of door finishes. (d) Rectification / Replacement of floor tiles which are sunken / uneven / undulating at joints / different in colour, texture, etc.

(ix)	Aluminium/u- PVC work	(a) Rectification / Replacement of defective part of Aluminium frame /shutters.
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Note: The above list is illustrative for civil work and not exhaustive.

5.8.5 **Deleted**

5.9 **Deleted**

5.9.1 **Deleted**

5.9.2 **Deleted**

5.9.3 **Deleted**

5.9.4 **Other Conditions**

- (a) The execution of items shall be carried out in accordance to relevant CPWD specifications (*amended upto date of receipt of tenders*). For the items which are not covered under CPWD specifications, the Technical Specifications / B.I.S. Specifications shall have to be followed. The decision of Engineer shall be final in this regard.
- (b) Wherever any reference is made to any Indian Standard, it shall be taken as reference to the latest edition with all amendments / revision issued thereto upto the date of receipt of tenders.
- (c) Unless otherwise specified, the agreement rates for all items of work of the Schedule of Quantities are for all heights, depths, leads and lifts involved in the execution of work.
- (d) The contractor shall make his own arrangement of water required for the work.
- (e) The contractor shall make his own arrangements for obtaining electric connection for carrying out any maintenance activity and make necessary payment to the department concerned. In the absence of electric connection or failure of power supply, the contractor shall make his own arrangements of generators.
- (f) Other agencies working at site will also simultaneously execute the work. The contractor shall offer necessary cooperation to other agencies wherever required.
- (g) On account of security consideration, there could be some restrictions on the working hours, movement of vehicles for transportation of materials, etc. The contractor shall be bound to follow all such restrictions and adjust the programmes for execution of works accordingly.
- (h) The work shall be carried out in a manner complying in all respects with the requirements of any prevalent statutory laws enacted either by Central Govt. as well as State Govt./Authority.
- (i) Any malba / building rubbish generated is to be removed from the site within 24 hours and to be stacked at a pre-designated place. The malba / building rubbish so stacked shall be disposed off as soon as one truck load is accumulated (*approx 5 cum*) from such designated place.
- (j) This malba / building rubbish has to be disposed off to the dumping ground as approved by the Engineer in consultation with DFCCIL. ***The rates quoted by the contractor are inclusive of all***

operations, labour, leads and lifts from site of work to the dumping ground.

- (k) Maintenance Engineer/Supervisor shall carry mobile telephone (s) to enable the Engineer- in-Charge to have easy and quick communication. ***Nothing extra shall be paid to the contractor*** on this account and his ***quoted rates*** for various items under this contract will be ***inclusive of this obligation***.
- (l) The replaced materials used shall have same or richer specifications to the original materials and compatible to the work.
- (m) The staff employed by the contractor should be well behaved and any complaint of misbehaviour shall be taken very seriously and such staff will have to be removed by the contractor immediately from the site.
- (n) The dismantled materials shall be taken away and disposed off by the contractor at his cost. ***Nothing extra shall be paid*** / recovered on account of this.
- (o) The contractor shall make all safety arrangements required for the labour engaged by him at his cost. All consequences due to negligence on behalf of security / safety or otherwise shall be on the contractor. The department shall not be responsible for any mishap, injury, accident or death of the contractor's staff. No claim in this regard shall be entertained / accepted by the department.
- (p) Contractor shall be fully responsible for any damages caused to government property or allottee's property by him or his labour in carrying out the work and shall be rectified by the contractor at his own cost.
- (q) Chases, holes, etc. shall be done using power operated tools.

5.10 Safety measures

5.10.1 The issue of construction safety & standards has gained utmost importance in recent times. This subject is to be dealt with, in an overall manner with an approach to developing and establishment a safety culture at work sites. Broadly, its components are:

- (a) Creating an awareness
- (b) Education
- (c) Training
- (d) Implementation
- (e) Enforcement measures

All workers of contractor and associate agencies, invariably and at all the times, must follow all safety norms, adopt safe construction practices and use all required safety gadgets in their working, throughout the project duration.

5.10.2 The ***contractor will employ a Safety Engineer***. He shall be primarily responsible for developing safety programs, training, implementation and propagating safety culture.

5.10.3 The contractor shall issue ***Photo Identity Cards*** with unique numbers containing salient information of workers. Further the contractor shall establish a ***Time Office*** at the entry to demarcate area of site. The ***Time Office*** shall maintain a computerized record of all the workers allowed entry / working inside the demarcated area.

5.10.4 **Formation of Safety Monitoring Committee:** The contractor within 30 days of start of work shall submit the names of Safety Engineer to the Engineer/DFCCIL who shall notify a monitoring committee consisting of authorized representatives of the contractor, associate agencies (*if any*), DFCCIL. The mandate of this monitoring committee will be to monitor and achieve the objectives of construction safety continuously, progressively and through affirmative action and to inculcate the safety culture among all stake holders. This committee will oversee implementation of safety program over the entire construction period.

5.10.5 **Training and Awareness:**

- (a) Training: The training shall be in two phases- first initial training and then periodic training / refresher workshop.
- (b) Initial training: All the workers shall have to undergo a training program of 16 hrs (*8 hrs for 2 days*) and to be declared satisfactorily trained by the Safety Manager before they are allowed to work on site.
- (c) Orientation Program: An orientation program shall be arranged for all people (*other than workers*) who normally work at or visit the site.
- (d) Workshops: Refresher workshops shall be arranged for one day in every three months for all the workers on site.
- (e) Advance training: For workers involved in high risk activities (*to be identified by the Safety Monitoring Committee*) a refresher workshop / training shall be kept once a month.
- (f) The training modules shall be designed by the Safety Manager and approved by the Safety monitoring committee.
- (g) Training Methodology: The training methodology shall include both classroom and practical demonstration with audio visual techniques. For greater impact, demonstration with dummies will be done to highlight hazards of not following safe practices. The training shall be imparted in vernacular language and may include means such as songs, theatre, puppetry etc. for better appreciation and assimilation by workers.
- (h) *Implementation:*
 - (i) The basic responsibility of implementation of safe practices shall be that of the safety manager and safety supervisors of the contractor at the first level and Engineer and DFCCIL on second level. The basic approach of implementation should be towards voluntary acceptability of safe practices by all stake holders.
 - (ii) The safety arrangement made by the contractor shall be open to inspection by the safety officer or any other representative appointed by Engineer/DFCCIL and the observation made by him shall be complied with by the contractor.

5.10.6 **Enforcement:** The safety team of the contractor and Engineer are entrusted with enforcement of safe practices. If safety program is not followed (*as assessed by Engineer/DFCCIL*) then suitable actions shall be taken as per GCC.

- (a) No person shall be allowed to enter the demarcated area without adequate safety gadgets (*as per occupation / purpose of visit*).
- (b) In case the contractor / subcontractor do not impart training, the same shall be provided by DFCCIL through an accredited agency. ***Twice the amount of fee for such training shall be deducted from the contractor.*** A display board shall be kept at site which would list the names of workers / teams and agencies following safety program in the best manner. This would be updated weekly.
- (c) During training and workshops, the names of persons / teams / agencies that are best following safety program shall be announced and they shall be felicitated.
- (d) On completion of the work, shields for best person / team / agencies safety program in different categories shall be awarded.

5.10.7 **Insurance:**

Before commencing of works, it shall be obligatory for the Contractor to obtain, ***at his own cost, insurance cover*** in the ***joint name of the Contractor and Employer (DFCCIL)*** from reputed companies for the following requirements:

- a) Contractor's All Risk (CAR) Policy.
- b) Liability for death of or injury to any person or loss of or damage to any property (*other than the work*) arising out the performance of the contract.
- c) Construction Plant, Machinery and Equipment brought to site by the Contractor.
- d) Workmen Compensation Policy
- e) Any other insurance cover as may be required by the law of the land.
- f) The Contractor, if required, will engage a suitable Engineer to liaise with Insurer Company in the interest of realization of insurance claims at no cost to Employer.
- g) Contractor/Insurance Company shall have to indemnify DFCCIL for all losses. Claims if any given by insurance company to be given directly to DFCCIL. Decision of DFCCIL will be binding on Contractor to distribute claim in part or full.

All insurance covers referred to in the Contract shall be affected with an Indian Insurance Company incorporated and registered in India.

5.11 SECURITY

- 5.11.1 Contractor shall take all measures and precautions relating to security of the construction site. He shall **barricade the construction site** / designated area of construction through the barriers and as approved by the Engineer. No material shall be stored / dumped outside the designated area.
- 5.11.2 The movement of the construction vehicles and the labours shall be restricted to the designated routes which will be decided by the Engineer/DFCCIL.
- 5.11.3 All the vehicles carrying the material to the work site shall be subject to check and entries to be made at the gates. No material shall be taken out without proper gate pass.
- 5.11.4 Any labour engaged by the contractor shall be in possession of photo ID card failing which they are liable to be disengaged from the work and shall not be allowed to enter into the construction site.
- 5.11.5 In case of any nuisance caused by activities attributed to contractors' staff, workmen and movement of vehicle, and reported to Engineer/DFCCIL, a suitable action will be taken by the Engineer/DFCCIL.
- 5.11.6 The movement of the labour shall be restricted to the barricaded work site area only.

5.12 3rd PARTY QUALITY ASSURANCE

- 5.12.1 In order to achieve high standards of materials, workmanship and overall quality of the execution, an agency engaged by DFCCIL will carry out Third Party Inspections as part of 'Third Party Quality Assurance'. This agency will carry out the checks of the quality assurance procedures followed at site, take samples of the materials for independent testing and check the workmanship of the works carried out. The contractor shall extend full co-operation to the TPQA agency in facilitating the inspections and collection of samples and regulate the execution stages with regards to the hold and witness points which shall be strictly adhered to by the contractor. The next stage work shall not be undertaken at the hold point stage and work shall be done in presence of the TPQA representative at the witness stage. The contractor shall be required to co-operate with agency in carrying out various activities including documentation at no extra time and cost to the owner. In case of any adverse findings by the TPQA agency, the contractor shall do the needful rectifications to the entire satisfaction of the TPQA agency and DFCCIL. If contractor fails to rectify the defects of the serious nature within a reasonable time frame, **no further payment shall be made.**

If work is stopped due to non- rectification of defects and delay occurs on this account, no relief in completion of mile stone by way of grant of EOT or any other relaxation be given.

5.13 CONSTRUCTION VEHICLES TYRE WASHING FACILITIES

All the vehicles leaving the site shall be loaded in such a manner that the excavated materials, mud or debris will not be deposited on roads. All such loads shall be covered or protected to prevent dust being emitted. The wheels of all vehicles shall be washed properly before leaving the site to avoid the deposition of mud and debris on the roads. The contractor shall provide a wash pit and a wheel washing facility with high pressure water jets for this purpose. Also, the contractor shall make necessary arrangements for sweeping and removal of mud from roads if it is deposited even after washing of wheels of vehicles leaving site. ***Nothing extra shall be paid*** for providing and maintaining this facility.

5.14 BARRICADING OF SITE

The contractor shall make adequate arrangement for new barricading as directed by the Engineer to cover the entire construction site including all T&P and materials. The requirement of providing and fixing new barricading at site shall be decided as per the direction and approval of Engineer. The barricading shall be provided continuously during the execution of the entire work till completion and shall not be removed at any stage without prior approval of the Engineer. The barricading shall be provided and shall be the property of the contractor after completion of the work.

5.15 WATER SUPPLY

Contractor shall be responsible for the arrangement to obtain supply of water necessary for the works at his own cost.

5.16 ELECTRIC SUPPLY

Contractor shall be responsible for the arrangement to obtain supply of electric power necessary for the works at his own cost.

5.17 COMPLIANCE TO ENVIRONMENTAL LAWS

The contractor shall comply the directives of Hon'ble National Green Tribunal dated 04.12.2014 & 10.04.2015 and EIA Guidance Manual issued in February 2010 and Construction & Demolition Waste Management Rules, 2016. The compliance of the contractor shall not be limited to the following:

1. The contractor shall not store/dump construction material or debris on metalled road.
2. The contractor shall get prior approval from Engineer for the area where the construction material or debris can be stored beyond the metalled road. This area shall not cause any obstruction to the free flow of traffic/inconvenience to the pedestrians. It should be ensured by the contractor that no accidents occur on account of such permissible storage.
3. The contractor shall take appropriate protection measures like raising wind breakers of appropriate height on all sides of the plot/area using CGI sheets or plastic and/or other similar material to ensure that no construction material dust fly outside the plot area.
4. The contractor shall ensure that all the trucks or vehicles of any kind which are used for construction purposes/or are carrying construction material like cement, sand and other allied material are fully covered. The contractor shall take every necessary precautions that the vehicle are properly cleaned and dust free to ensure that enroute their destination, the dust, sand or any other particles are not released in air/contaminate air.
5. The contractor shall provide mask to every worker working on the construction site and involved in loading, unloading and carriage of construction material and construction debris to prevent inhalation of dust particles.
6. The contractor shall provide all medical help, investigation and treatment to the workers involved in the construction of building and carry of construction material and debris relating to dust emission.
7. The contractor shall ensure that C&D waste is transported to the approved C&D waste site of local authority only as per Construction & Demolition Waste Management Rules, 2016 and due

record shall be maintained by the contractor.

8. The contractor shall compulsorily use jet in grinding and stone cutting.
9. The contractor shall comply all the preventive and protective environmental steps as stated in the MoEF Guidelines, 2010.
10. The contractor shall carry out On-Road-Inspection for black smoke generating machinery. The contractor shall use cleaner fuel.
11. The contractor shall ensure that the DG sets comply emission norms notified by MoEF.
12. The contractor shall use vehicles having pollution under control certificate. The emissions can be reduced by a large extent by reducing the speed of a vehicle to 20 kmph. Speed bumps shall be used to ensure speed reduction. In cases where speed reduction cannot effectively reduce fugitive dust, the contractor shall divert traffic to nearby paved areas.
13. The contractor shall ensure that the construction material is covered by tarpaulin. The contractor shall take all other precaution to ensure that no dust particles are permitted to pollute air quality as a result of such storage.
14. ***No extra payment will be made*** for operation/activity mentioned at Sl. No. 1 to 13 above.

5.18 Deleted

5.19 NOTES

5.19.1 ***Nothing extra shall be paid*** on the account of special conditions (*Part-I, Chapter-V*).

5.19.2 Tenderer is advised to visit the site before submitting their bid. The site has many ***bushes and vegetation***, etc. ***Nothing extra shall be payable on account of cleaning of site***. The contractor must plan his activities accordingly so as to effectively utilize the cutting and filling of earth in nearest possible locations.

PART-I CHAPTER-V

SPECIAL CONDITIONS OF CONTRACT

ADDITIONAL SPECIAL CONDITIONS (SECTION-2)

6.1 GENERAL

- 6.1.1 Where there is any conflict between the various documents in the contract, the following order of priority shall be followed i.e. a document appearing earlier shall override the document appearing subsequently. However, the ***decision of Engineer would be final & binding*** in this regard.

Order of Priority of Documents:

1. Agreement
2. Letter of Acceptance of Tender
3. Preamble and General Instructions to the Tenderers
4. Special Conditions of the Contract
5. General Conditions of Contract
6. Technical Specifications
7. Description of items as given in “Schedule of Prices”.

Note: Unless otherwise specified, CPWD Specifications 2009 Volume I & II with corrections slips till the last date of tender submission shall be followed in general. Any additional item of work, if taken up subsequently, shall also conform to the relevant CPWD Specifications mentioned above (*if available*).

- 6.1.2 The work shall be carried out in accordance with the Architectural drawings and structural drawings, to be issued from time to time, by the Engineer. Before commencement of any item of work, the contractor shall correlate all the relevant architectural and structural drawings issued for the work and satisfy himself that the information available from there is complete and unambiguous. The discrepancy, if any, shall be brought to the notice of the Engineer before execution of the work. The contractor alone shall be responsible for any loss or damage occurring by the commencement of work on the basis of any erroneous and or incomplete information.
- 6.1.3 The contractor shall be responsible for the watch and ward / guard of the buildings, till the building is physically handed over to the DFCCIL. ***No extra payment*** shall be made on this account.
- 6.1.4 For works below ground level, the contractor shall keep that area free from water. If, dewatering or bailing out of water is required, the contractor shall ***do it at his cost*** and ***nothing extra shall be paid*** except otherwise provided in the items of schedule of quantities.
- 6.1.5 Results of sub-surface investigations conducted at site are indicated in extracts of the soil investigation report (*available in DFCCIL Office*). This information about the soil and sub-soil water conditions is indicative and is being provided, in good faith, for guidance only and the tenderer is advised to obtain details directly as may be considered necessary by him before quoting rates in the tender. No claim whatsoever on account of any discrepancy between the sub- surface strata conditions that may be actually encountered at the time of execution of the work and those given in these tender documents, in-accuracy or interpretation thereof shall be entertained from the Contractor under any circumstances.

The ground water table is a variable condition and the information given in the report is only indicative and it may vary from time to time.

- 6.1.6 Excavated earth shall be property of DFCCIL and shall not be disposed off without approval of Engineer. Any legal or financial implications resulting out of disposal of earth shall be sole responsibility of the contractor.
- 6.1.7 The Contractor shall make all necessary arrangements for protecting from rains, fog or likewise extreme weather conditions, the work already executed and for carrying out the further work, during monsoon including providing and fixing temporary shelters, protections etc. ***Nothing extra shall be payable*** on this account. Also, no claims for hindrance shall be entertained on this account.
- 6.1.8 In case of flooding of site on account of rain or any other cause and any consequent damage, whatsoever, ***no claim financially or otherwise*** shall be entertained notwithstanding any other provisions elsewhere in the contract agreement. Also, the Contractor shall make good, at his own cost, the damages caused, if any. Further, no claims for hindrance shall be entertained on this account.
- 6.1.9 The contractor will take reasonable precautions to prevent his workmen and employees from removing and damaging any flora (*plant/vegetation*) from the project area.

6.1.10 Emergency Work:

In the event of any action or failure occurring in on or about the work or arising out of or in connection with the construction, completion or maintenance of the work which in the Engineer opinion requires immediate attention, Engineer may by its own workmen or other agency execute or partly execute the necessary work or carry out repairs if the Engineer considers that the contractor is not in a position to do in time and to charge the cost thereof to the contractor as determined by the Engineer.

6.1.11 Protection & Care of Works:

- a. The works are to be protected as asked by the Engineer. Protection is required for all hazardous works and during installation, testing & commissioning of work. The cost of safety measures & other gadgets etc. shall be deemed to be included in the quoted rates and ***nothing extra*** shall be paid for the same.
- b. ***Care of the building:***
 - (i) Care shall be taken by the contractor during execution of the work to avoid damage to the building and adjacent buildings.
 - (ii) They shall also be responsible for repairing all such damages and restoring the same to the original finish at their cost.
 - (iii) They shall also remove all unwanted and waste materials arising out of the execution of work from the site from time to time.

6.1.12 Handing Over

- a. On completion of all items of work as per contract, contractor shall hand over the works to joint taking over by client & Engineer. The handing over of the completed works to Engineer shall be the responsibility of the contractor. The handing over will be treated as final only when the same is taken over by the Engineer/Client officially in writing. The defect liability period will commence from the date of handing over to the Engineer. The process of handing over shall be as under:-

One month in advance of the stipulated date of completion, joint inspection shall be carried out with contractor and Engineer's representatives and all the defects, deficiencies shall be noted and a time bound programme to be made for rectifying/making good all the defects and deficiencies. The contractor shall remove at his own cost all surplus materials, debris, material waster, labour hutments before handing over. If it is felt that the contractor is not responding to rectify the defects urgently and the Engineer is suffering in using the assets created due to default of the contract, Engineer shall be entitled to get the defects rectified at the risk and cost of the contractor any time after expiry of 24 hours notice issued to the contractor.

6.2 TOOLS AND PLANTS

- 6.2.1 The bidder should arrange construction equipments required for the proper and timely execution of the work. ***Nothing extra shall be paid*** on this account.
- 6.2.2 No tools and plants including any special T&P etc. shall be supplied by the Department and the contractor shall have to make his ***own arrangements at his own cost***. No claim of hindrance *(or any other claim)* shall be entertained on this account.
- 6.2.3 The contractor shall do proper sequencing of the various activities by suitably staggering the activities within various pockets in the plot so as to achieve early completion. The agency may deploy adequate equipment, machinery and labour as required for the completion of the entire work within the stipulated period specified. Also ancillary facilities shall be provided by contractor commensurate with requirement to complete the entire work within the stipulated period. ***Nothing extra shall be payable*** on this account. Adequate number/sets of equipment in working condition, along with adequate stand-by arrangements, shall be deployed during entire construction period. It shall be ensured by the Contractor that all the equipment, Tools & Plants, machineries etc. provided by him are maintained in proper working conditions at all times during the progress of the work and till the completion of the work. Further, all the constructional tools, plants, equipment and machineries provided by the contractor, on site of work or his work shop for this work, shall be exclusively intended for use in the construction of this work and they shall not be shifted / removed from site without the permission of the Engineer.

6.3 ROYALTY

- 6.3.1 Royalty at the prevalent rates shall be paid by the contractor or the RMC supplier as per the terms of supply between them, on all materials such as boulders, metals, all sizes stone aggregates, brick aggregates, coarse and fine sand, moorum, river sand, gravels and bajri etc. collected by him for the

execution of the work, directly to the revenue authority of the state government concerned. Further, contractor needs to submit proof of submission of full royalty to the state government or local authority. ***Nothing extra shall be payable*** on this account.

6.4 PRESERVATION AND CONSERVATION MEASURES

- 6.4.1 Existing drains, pipes, cables, over-head wires, sewer lines, water lines and similar services encountered in the course of the execution of work shall be protected against the damage by the contractor, ***at his own expense***, for which ***nothing is payable***. The contractor shall not store materials or otherwise occupy any part of the site in a manner likely to hinder the operation of such services.
- 6.4.2 All fossils, coins, articles of value of antiquity, structures and other remains or things of geological or archaeological interest discovered on project location during excavation/construction shall be the property of the Government, and shall be dealt with as per provisions of the relevant legislation. The contractor will take reasonable precaution to prevent his workmen or any other persons from removing and damaging any such article or thing. He will, immediately upon discovery thereof and before removal acquaint the Engineer of such discovery and carry out the official instructions of Engineer for dealing with the same, till then, all work shall be carried out in a way so as not to disturb/ damage such article or thing.

6.5 RESPONSIBILITY

- 6.5.1 The Contractor shall keep himself fully informed of all relevant acts and laws of the Central & State Governments, orders, decrees of statutory bodies, tribunals having any jurisdiction or authority, which in any manner may affect those engaged or employed and anything related to carrying out the work. All the rules & regulations and bye-laws laid down by District Collector /Noida Authority and any other statutory bodies shall be adhered to, by the contractor, during the execution of work. The Contractor shall also adhere to all traffic restrictions notified by the local authorities. ***The water charges (for municipal water connection as well as tanker water) shall be borne by the contractor.*** Also, if the contractor obtains water connection for the drinking purposes from the municipal authorities or any other statutory body, the consequent ***sewerage charges shall be borne by the contractor.*** All statutory taxes, levies, charges *(including water and sewerage charges, charges for temporary service connections and / or any other charges)* payable to such authorities for carrying out the work, ***shall be borne by the Contractor.*** The Contractor shall arrange to give all notices as required by any statutory / regulatory authority and shall pay to such authority all the fees that is required to be paid for the execution of work. He shall protect and indemnify the DFCCIL and its officials & employees against any claim and /or liability arising out of violations of any such laws, ordinances, orders, decrees, by himself or by his employees or his authorized representatives. ***Nothing extra shall be payable*** on these accounts.
- 6.5.2 The fee payable to statutory authorities for obtaining the ***various permanent service connections*** and Building Use Certificate for the building ***shall be borne by the DFCCIL.*** The contractor shall assume all

liability, financial or otherwise in connection with this contract and shall protect and indemnify DFCCIL from any and all damages and claims that may arise on any account. The Contractor shall indemnify against all claims in respect of patent rights, royalties, design, trademarks of name or other protected rights, damages to adjacent buildings, roads or members of public, in course of execution of work or any other reasons whatsoever, and shall himself defend all actions arising from such claims and shall indemnify the DFCCIL in all respect from such actions, costs and expenses. ***Nothing extra shall be payable*** on this account.

- 6.5.3 The contractor shall keep himself fully informed of all acts and laws of the Central Government and Government of U.P., all local bye laws, ordinances, rules and regulations and all orders and decree of bodies or, tribunals having any jurisdiction or authority which in any manner affect those engaged or employed on the work or which in any way affect the conduct of the works. Contractor shall at all times, observe and comply with all such laws, ordinances, rules, regulations, orders and decrees, and shall give all notices and ***pay out of his own money any fees or charges to which he may be liable***. He shall protect and indemnify the DFCCIL and its officers and employees against any claim or liability arising out of violations of any such law, ordinances, legislations, order or decree, whether by himself or by his employees & authorized representatives.

6.6 CO-OPERATION WITH OTHER CONTRACTORS/SPECIALIZED AGENCIES/SUB-CONTRACTORS

- 6.6.1 The contractor shall take all necessary precautions to prevent any nuisance or inconvenience to the owners, tenants or occupants of the adjacent properties and to the public in general .The Contractor shall take all care, as not to damage any other adjacent property or other services running adjacent to the plot. If any damage is done, the same shall be made good by the contractor ***at his own cost*** and to the entire satisfaction of the Engineer. The contractor shall use such methodology and equipment for execution of the work, so as to cause ***minimum environmental pollution*** of any kind during construction, to have minimum construction time and minimum inconvenience to road users and to the occupants of the buildings on the adjacent plot and public in general, etc. He shall make good ***at his own cost*** and to the entire satisfaction of the Engineer any damage to roads, paths, cross drainage works or public or private property whatsoever caused, due to the execution of the work or by traffic brought thereon, by the Contractor. Further, the contractor shall take all precautions to abide by the environmental related restrictions imposed by U.P. state Pollution control board, Govt. of U.P. as well as prevent any pollution of streams, ravines, river bed and waterways. All waste or superfluous materials shall be transported by the Contractor, entirely to the satisfaction of the Engineer. Utmost care shall be taken to keep the noise level to the barest minimum so that no disturbance as far as possible is caused to the occupants / users of adjoining buildings. No claim what so ever on account of site constraints mentioned above or any other site constraints, such as distance from Noida city as approximately 20 km, lack of public transport, inadequate availability of skilled, semi-skilled or unskilled workers in the near vicinity, non-availability of construction machinery spare parts and any other constraints not specifically stated here, shall be entertained from the contractor. Therefore, the Tenderers are advised to visit site and get first-hand information of site constraints. Accordingly, they should quote their tenders. ***Nothing extra shall be payable*** on this account.
- 6.6.2 The contractor shall cooperate with and provide the facilities to the sub-contractors and other agencies working at site for smooth execution of the work. The contractor shall indemnify the DFCCIL against any claim(s) arising out of such disputes. The contractor shall :

- (i) Allow use of scaffolding, toilets, sheds etc.
 - (ii) Properly co-ordinate their work with the work of other Contractors.
 - (iii) Provide control lines and benchmarks to his Sub-Contractors and the other Contractors.
 - (iv) Provide electricity and water at mutually agreed rates.
 - (v) Provide hoist and crane facilities for lifting material at mutually agreed rates.
 - (vi) Co-ordinate with other contractors for leaving inserts, making chases, alignment of services etc. at site.
 - (vii) Adjust work schedule and site activities in consultation with the Engineer and other contractors to suit the overall schedule completion.
 - (viii) Resolve the disputes with other contractors / sub-contractors amicably and the Engineer shall not be made intermediary or arbitrator.
- 6.6.3 The work should be planned in a systematic manner so as to ensure proper co-ordination of various disciplines
- 6.6.4 The contractor shall leave recesses, holes, openings trenches etc. as may be required for the related works and ***nothing extra shall be payable*** on this account.
- 6.6.5 The contractor shall conduct his work, so as not to interfere with or hinder the progress or completion of the work being performed by other contractor(s) or by the Engineer and shall as far as possible arrange his work and shall place and dispose of the materials being used or removed so as not to interfere with the operations of other contractor or he shall arrange his work with that of the others in an acceptable and in a proper co-ordination manner and shall perform it in proper sequence to the complete satisfaction of others.
- 6.6.6 Specialized Agencies**
- 6.6.6.1 The tenderer must associate with himself, agencies of the appropriate eligibility to tender for each of specialized nature of items / work. Such works shall be got executed only through associated agencies specialized in these fields.
- 6.6.6.2 It shall be the responsibility of main contractor to sort out any dispute / litigation with the Specialized Agencies without any time & cost overrun to the DFCCIL. The main contractor shall be solely responsible for settling any dispute / litigation arising out of his agreement with the Specialized Agencies. The contractor shall ensure that the work shall not suffer on account of litigation/ dispute between him and the specialized agencies / sub- contractor(s). No claim of hindrance in the work shall be entertained from the Contractor on this account. ***No extension of time*** shall be granted and ***no claim*** what so ever, of any kind, shall be entertained from the Contractor on account of delay attributable to the selection/rejection of the Specialized Agencies.
- 6.7 RATES**
- 6.7.1 The rates quoted by the contractor are deemed to be inclusive of site clearance, setting out work, profile, setting lay out on ground, establishment of reference bench mark(s), installing various signage, taking spot levels, survey with total station, construction of all safety and protection devices, compulsory use

of helmet and safety shoes, and other appropriate safety gadgets by workers, imparting continuous training for all the workers, barriers, preparatory works, construction of clean, hygienic and well ventilated workers housings in sufficient numbers working during monsoon or odd season, working beyond normal hours, working at all depths, height, lead, lift, levels and location etc. and any other unforeseen but essential incidental works required to complete this work. ***Nothing extra shall be payable*** on this account and ***no extension of time*** for completion of work shall be granted on these accounts.

- 6.7.2 ***The rates quoted by the tenderer shall be inclusive of all taxes and levies but excluding GST. The GST as legally leviable and payable by the Bidder under the provisions of applicable law/act shall be paid extra by DFCCIL.***

Therefore, the Bidders should quote their rates after considering the Input Tax Credits on their input materials and services. Hence, Bidders should ensure that, full benefit of Input Tax Credit (ITC) likely to be availed by them is duly considered while quoting their rates.

Price variation will be applicable as per the clause mentioned in GCC.

- 6.7.3 No foreign exchange shall be made available by the DFCCIL for importing (*purchase*) of equipment, plants, machinery, materials of any kind or any other items required to be carried out during execution of the work. ***No delay and no claim*** of any kind shall be entertained from the Contractor, on account of ***variation in the foreign exchange rate.***

- 6.7.4 All ancillary and incidental facilities required for execution of work like labour camp, stores, fabrication yard, offices for Contractor, watch and ward, temporary ramp required to be made for working at the basement level, temporary structure for plants and machineries, water storage tanks, installation and consumption charges of temporary electricity, telephone, water etc. required for execution of the work, liaison and pursuing for obtaining various No Objection Certificates, completion certificates from local bodies etc., protection works, testing facilities / laboratory at site of work, facilities for all field tests and for taking samples etc. during execution or any other activity which is necessary (*for execution of work and as directed by Engineer*), ***shall be deemed to be included in rates quoted by the Contractor***, for various items in the schedule of quantities. ***Nothing extra shall be payable*** on these accounts. Before start of the work, the Contractor shall submit to the Engineer, a site / construction yard layout, specifying areas for construction, site office, positioning of machinery, material yard, cement and other storage, steel fabrication yard, site laboratory, water tank, etc. ***DFCCIL shall provide rent free piece of land*** for construction of these facilities at construction site for the duration of this work.

- 6.7.5 For completing the work in time, the contractor might be required to work in two or more shifts (*including night shifts*). ***No claim*** whatsoever shall be entertained on this account, not with-standing the fact that the contractor may have to pay extra amounts for any reason, to the labourers and other staff engaged directly or indirectly on the work according to the provisions of the labour and other statutory bodies regulations and the agreement entered upon by the contractor with them.

- 6.7.6 All material shall only be brought at site as per program finalized with the Engineer. ***Any pre-delivery of the material*** not required for immediate consumption shall not be accepted and ***thus not paid for.***

6.7.7 Deleted

6.8 SAFETY PRACTICES

6.8.1 **WARNING / CAUTION BOARDS:** All temporary warning / caution boards / glow signage display such as "Construction Work in Progress", "Keep Away", "No Parking", Diversions & protective Barricades etc. shall be provided and displayed during day time by the Contractor, wherever required and as directed by the Engineer. These glow signages and red lights shall be suitably illuminated during night also. The Contractor shall be solely responsible for damage and accident caused, if any, due to negligence on his part. Also he shall ensure that no hindrance, as far as possible, is caused to general traffic during execution of the work. This signage shall be dismantled & taken away by the Contractor after the completion of work, only after approval of the Engineer. ***Nothing extra shall be payable*** on this account.

6.8.2 **SIGN BOARDS:** The contractor shall provide and erect a display board of size and shape as required and paint over it, in a legible and workman like manner, the details about the salient features of the project, as required by the Engineer. The Contractor shall fabricate and put up a sign board in an approved location and to an approved design indicating name of the project, client / owner, architects, structural consultants etc. besides providing space for names of other Contractors, Sub-Contractors and specialized agencies. ***Nothing extra shall be payable*** on this account.

6.8.3 Necessary protective and safety equipment shall be provided to the Site Engineer, Supervisory staff, labour and technical staff of the contractor by the contractor ***at his own cost*** and to be used at site.

6.8.4 No inflammable materials including P.O.L shall be allowed to be stored in huge quantity at site. Only limited quantity of P.O.L may be allowed to be stored at site subject to the compliance of all rules / instructions issued by the relevant authorities and as per the direction of Engineer in this regard. Also all precautions and safety measures shall be taken by the contractor for safe handling of the P.O.L products stored at site. All consequences on account of unsafe handling of P.O.L ***shall be borne by the Contractor***.

6.9 QUALITY ASSURANCE

6.9.1 The proposed building is a prestigious project of DFCCIL and quality of work is of paramount importance. Contractor shall have to engage well-experienced skilled labour and deploy modern T&P and other equipment to execute the work. Many items like exposed finish form work, specialized flooring work, Polysulphide / P.U. sealant and backer rod fixing in expansion joints, factory made door- window shutters, proper slope maintaining in toilet units, sanitary- water supply installation, textured finishing, grit plastering with aluminium channel insertions, water proofing treatment, Extruded Polystyrene insulation boards, façade works and chemical treatment in toilet drops will specially require engagement of skilled workers having experience particularly in execution of such items.

6.9.2 The contractor shall ensure quality construction in a planned and time bound manner. Any sub-standard material / work beyond set out tolerance limit ***shall be summarily rejected*** by the Engineer & contractor shall be bound to replace / remove such sub-standard / defective work immediately. If any material, even though approved by Engineer is found defective or not conforming to specifications shall be replaced / removed by the contractor ***at his own risk & cost***.

6.9.3 Deleted

- 6.9.4 The contractor shall submit, a detailed and complete method statement for the execution, testing and Quality Assurance, of such items of works, as directed by the Engineer. All the materials to be used in the work, to give the finished work complete in all respects, shall comply with the requirements of the specifications and shall pass all the tests required as per specifications as applicable or such specifications / standards as directed by the Engineer. However, keeping the Quality Assurance in mind, the Contractor shall submit, on request from the Engineer, his own Quality Assurance procedures for basic materials and such items, to be followed during the execution of the work, for approval of the Engineer.
- 6.9.5 All materials and fittings brought by the contractor to the site for use shall conform to the samples approved by the Engineer which shall be preserved till the completion of the work. If a particular brand of material is specified in the item of work in Schedule of Quantity, the same shall be used after getting the same approved from Engineer. Wherever brand / quality of material is not specified in the item of work, the contractor shall submit the samples as per suggested list of brand names given in the tender document / SCC for approval of Engineer. For all other items, materials and fittings of ISI Marked shall be used with the approval of Engineer. Wherever ISI Marked material / fittings are not available, the contractor shall submit samples of materials / fittings manufactured by firms of repute conforming to relevant specifications or IS codes and use the same only after getting the approval of Engineer.
- 6.9.6 The contractor shall procure and provide all the materials from the manufacturers / suppliers as per the list attached with the tender documents/SCC, as per the item description of the work. The equivalent brand for any item shall be permitted to be used in the work, only after approval of Engineer/Employer. **No claim**, whatsoever, of any kind **shall be entertained** from the contractor on this account and **Nothing extra shall be payable** on this account.
- 6.9.7 All materials whether obtained from Govt. stores or otherwise shall be got checked by the Engineer or his authorized supervisory staff on receipt of the same at site before use.
- 6.9.8 The tests, as necessary, shall be conducted in the laboratory approved by the Engineer. The samples shall be taken for carrying out all or any of the tests stipulated in the specifications and as directed by the Engineer or his authorized representative.
- 6.9.9 All the registers of tests carried out at Construction Site or in outside laboratories and all material at site (MAS) registers including cement register shall be maintained by the contractor which shall be issued to the contractor by Engineer. All the entries in the registers will be made by the designated Engineering Staff of the contractor and same should be regularly reviewed by Engineer/Employer. Contractor shall be responsible for safe custody of all the test registers.
- 6.9.10 The contractor shall at his own risk and cost make all arrangements and shall provide all such facilities including material and labour, the Engineer may require for collecting, preparing, forwarding the required number of samples for testing as per the frequency of test stipulated in the contract specifications or as considered necessary by the Engineer, at such time and to such places, as directed by the Engineer. **Nothing extra shall be payable** for the above.
- 6.9.11 The contractor or his authorized representative shall associate in collection, preparation, forwarding and testing of such samples. In case he or his authorized representative is not present or does not associate him, the result of such tests and consequences thereon shall be binding on the contractor .The

contractor or his authorized representative shall remain in contact with the Engineer or his authorized representative associated for all such operations. No claim of payment or claim of any other kind, whatsoever, shall be entertained from the contractor.

6.9.12 ***All the testing charges shall be borne by the contractor.***

6.9.13 All the hidden items such as water supply lines, drainage pipes, conduits, sewers etc. are to be properly tested as per the design conditions before covering and their measurements in computerized measurement book duly test checked shall be deposited with Engineer or his authorized representative, prior to hiding these items.

6.9.14 Water tanks, taps, sanitary, water supply and drainage pipes, fittings and accessories should conform to byelaws and municipal body / Corporation/Authority where CPWD Specifications are not available.

6.9.15 The contractor shall give performance test of the entire installation(s) as per the standing specifications before the work is finally accepted and ***nothing extra*** whatsoever ***shall be payable*** to the contractor for the test.

6.9.16 ***The contractor shall have to execute guarantee bonds in respect of water proofing / anti termite treatment works as per Proforma enclosed.***

6.9.17 The contractor shall depute Site Engineer & skilled workers as required for the work. He shall submit organization chart along with details of Engineers and supervisory staff. It shall be ensured that all decision making powers shall be available to the representatives of the contractor at site itself to avoid any likely delays on this account. The contractor shall also furnish list of persons for specialized works to be executed for various items of work. The contractor shall identify and deploy key persons having qualifications and experience in the similar and other major works, as per the field of their expertise. If during the course of execution of work, the Engineer is of the opinion that the deployed staff is not sufficient or not well experienced; the Contractor shall deploy more staff or better-experienced staff at site to complete the work with quality and in stipulated time limit.

6.9.18 The contractor shall maintain all the work in good condition till the completion of entire work. The contractor shall be responsible for and shall make good, all damages and repairs, rendered necessary due to fire, rain, traffic, floods or any other causes. The Engineer shall not be responsible for any claims for injuries to person/workmen or for structural damage to property happening from any neglect, default, want of proper care or misconduct on the part of the contractor or of any other of his representatives, in his employment during the execution of the work. The compensation, if any, shall be paid directly to the Department / authority / persons concerned, by the Contractor ***at his own cost.***

6.9.19 The contractor shall ***arrange electricity at his own cost*** for testing of the various electrical installations as directed by Engineer and for the consumption by the contractor for executing the work. Also, all the ***water required*** for testing various electrical installations, fire pumps, wet riser / fire-fighting equipment, fire sprinklers etc. and also testing water supply, sanitary and drainage lines, water proofing of underground sump, overhead tanks, water proofing treatment etc. shall be arranged ***by the contractor at his own cost. Nothing extra shall be payable*** on this account.

6.10 SUBMISSION AND DOCUMENTATION

6.10.1 The contractor shall display all permissions, licenses, registration certificates, bar charts, other statements etc. under various labour laws and other regulations applicable to the works, at his site office.

6.10.2 **Deleted**

6.10.3 **Deleted**

6.10.4 The contractor shall make available four (04) sets of computerized Standard Measurement Books (SMBs) having measurement of all the permanent standing in a building.

6.10.5 **Deleted**

6.10.6 The contractor will submit computerized measurement sheet for the work carried out by him for making payment. For casting of RCC members and other hidden items the corrected and duly test checked measurement sheets of reinforcement or that of other hidden items shall be deposited with Engineer or his authorized representative, before casting of RCC or other hidden items. The delay in submission of corrected and duly checked measurement sheet may, therefore, delay casting of RCC or execution of hidden item for which no hindrance shall be recorded.

6.10.7 To avoid delay, contractor should submit all samples well in advance so as to give timely orders for procurement.

6.10.8 Program Chart:

The contractor shall prepare an integrated program chart including civil activities for the execution of work, showing clearly all activities from the start of work to completion of civil work, with details of manpower, equipment and machinery required for the fulfillment of the program within the stipulated period and submit the same for approval of the Engineer. These shall be submitted by the contractor through electronic media besides forwarding hard copies of the same. The integrated program chart so submitted should not have any discrepancy with the physical milestones attached in the contract agreement. The program chart should include the following: -

- (i) Descriptive note explaining sequence of various activities.
 - (ii) Network (*PERT/CGM/BAR CHART*) prepared on MS project which will indicate resources in financial terms, manpower and specialized equipment for every important stage.
 - (iii) Program for procurement of materials by the contractor.
 - (iv) Program for arranging and deployment of manpower both skilled and unskilled so as to achieve targeted progress.
 - (v) Program of procurement of machinery / equipment having adequate capacity, commensurate with the quantum of work to be done within the stipulated period, by the contractor.
 - (vi) Program for achieving fortnightly micro milestones and periodic milestones.
- 6.10.9 If at any time, it appears to the Engineer that the actual progress of work does not conform to the approved program referred above, the contractor shall produce a revised program showing the modifications to the approved program by additional inputs to ensure completion of the work within the stipulated time.

- 6.10.10 The submission for approval by the Engineer of such program or the furnishing of such particulars shall not relieve the contractor of any of his duties or responsibilities under the contract. This is without prejudice to the right of Engineer to take action against the contractor as per terms and conditions of the agreement.
- 6.10.11 Apart from the above integrated program chart, the contractor shall be required to submit fortnightly progress report of the work in a computerized form on 1st and 16th of every month. The progress report shall contain the following, apart from whatever else may be required as specified:
- (i) Construction schedule of the various components of the work through a bar chart for the next two fortnights (or as may be specified), showing the micro- milestone/milestones, targeted tasks (*including material and labour requirement*) and up to date progress.
 - (ii) Progress chart of the various components of the work that are planned and achieved, for the fortnight as well as cumulative up to the fortnight under reckoning, with reason for deviations, if any in a tabular format.
 - (iii) Plant and machinery statement, indicating those deployed in the work.
 - (iv) Man-power statement indicating:
 - a) Individually the names of all the staff deployed on the work, along with their designations.
 - b) No. of skilled workers (*trade wise*) and total no. of unskilled workers deployed on the work and their location of deployment i.e. blocks.
 - (v) Financial statement, indicating the broad details of all the running account payment received up to date, such as gross value of work done, advances taken, recoveries effected, amount withheld, net payments details of cheque payment received, extra/substituted/deviation items if any, etc.

6.11 TEMPORARY WATER/ ELECTRICITY/ TELEPHONE CONNECTION

- 6.11.1 Arrangement of temporary telephone connection, water and electricity required by contractor, shall be made by him ***at his own cost*** and also necessary permissions shall be obtained by him directly from concerned authorities, under intimation to the Department. Also, all initial cost and running charges, and security deposit, if any, in this regard shall be borne by him. The contractor shall abide by all the rules/ bye laws applicable in this regard and he shall be solely responsible for any penalty on account of violation of any of the rules / byelaws in this regard. ***Nothing extra shall be payable*** on this account.
- 6.11.2 The contractor shall be responsible for maintenance and watch and ward of the complete installation and water / electricity meter and shall also be responsible for any pilferage, theft, damage, penalty etc. in this regard. The contractor shall indemnify the DFCCIL against any claim arising out of pilferage, theft, damage, penalty etc. whatsoever on this account. ***Security deposit*** for the work shall be released only after No Dues Certificates are obtained from the local Authorities from whom temporary electric/ water / telephone connection have been obtained by the contractor. Nothing extra shall be payable on this account.

- 6.11.3 The DFCCIL shall in no way be responsible for either any delay in getting electric and/or water and/or telephone connections for carrying out the work or not getting connections at all. No claim of delay or any other kind, whatsoever, on this account shall be entertained from the contractor. Also contingency arrangement of stand-by water & electric supply shall be made by the contractor for commencement and smooth progress of the work so that work does not suffer on account of power failure or disconnection or not getting connection at all. No claim of any kind whatsoever shall be entertained on this account from the contractor. ***Nothing extra shall be payable*** on this account.

6.12 TRAFFIC ARRANGEMENTS

6.12.1 Deleted

6.12.2 Deleted

6.13 CLEANLINESS OF SITE

- 6.13.1 The contractor shall not stack building material / malba / muck on the land or road of the local development authority or on the land owned by the others, as the case may be. So the muck, rubbish etc. shall be removed periodically as directed by the Engineer, from the site of work to the approved dumping grounds as per the local byelaws and regulations of the concerned authorities and all necessary permissions in this regard from the local bodies shall be obtained by the contractor. ***Nothing extra shall be payable*** on this account. In case, the contractor is found stacking the building material / malba as stated above, the ***contractor shall be liable to pay*** the stacking charges / ***penalty*** as may be levied by the local body or any other authority and also to face penal action as per the rules, regulations and bye-laws of such body or authority. ***The Engineer shall be at liberty to recover***, such sums due but not paid to the concerned authorities on the above counts, from any sums due to the contractor including amount of the Security Deposit and performance guarantee in respect of this contract agreement.
- 6.13.2 The contractor shall take instructions from the Engineer regarding collection and stacking of materials at any place. No excavated earth or building rubbish shall be stacked on areas where other buildings, roads, services and compound walls are to be constructed.
- 6.13.3 The site of work shall be always kept clean due to constraints of space and to avoid any nuisance to the users of buildings in the adjacent plots. The contractor shall take all care to prevent any water-logging at site. The waste water, slush etc. shall not be allowed to be collected at site. It may be directly pumped into the creek with prior approval of the concerned authorities. For discharge into public drainage system, necessary permission shall be obtained from relevant authorities after paying the necessary charges, if any, directly to the authorities. The work shall be carried out in such a way that the area is kept clean and tidy. ***All the fees/charges in this regard shall be borne by the Contractor. Nothing extra shall be payable*** on this account.

6.14 INSPECTION OF WORK

- 6.14.1 In addition to the provisions of relevant clauses of the contract, the work shall also be open to inspection by the Chief General Manager, and other senior officers of DFCCIL in addition of the Engineer and his authorized representative. The contractor shall at times during the usual working hours and at all times at which reasonable notices of the intention of the Engineer or other officers as stated above to visit the works shall have been given to the contractor, either himself be present to

receive the orders and instructions or have a responsible representative duly accredited in writing, to be present for that purpose.

6.14.2 Inspection of the work by Architects appointed by the DFCCIL

- (i) The consulting architect appointed by DFCCIL shall be inspecting the works including workshops and fabrication factory to ensure that the works are in general being executed according to the design, drawings and specifications laid down in the contract. His observations shall be communicated by Engineer/DFCCIL engineering staff and compliance is to be reported to Engineer/DFCCIL.
- (ii) The consulting architect appointed by DFCCIL shall certify on completion of particular building that it has been constructed according to the approved drawings design and specifications.

6.14.3 Senior Officers of DFCCIL/Railway, Dignitaries from Central Ministry / Department, State Government shall be inspecting the on-going work at site at any time with or without prior intimation. The contractor shall, therefore, keep updated the following requirements and detailing.

- (i) Display Board showing detail of work, weekly progress achieved with respect to targets, reason of shortfall, status of manpower, wages being paid for different categories of workers.
- (ii) Entrance and area surrounding to be kept cleaned.
- (iii) Display layout plan key plan, Building drawings including plans, elevations and sections.
- (iv) Upto date displays of Bar chart, CGM and PERT etc.
- (v) Keep details of quantities executed, balance quantities, deviations, possible Extra item, substituted Item etc.
- (vi) Keep plastic / cloth mounted one sets of building drawings.
- (vii) Set of Helmets and safety shoes for safety.

6.15 SETTING OUT

6.15.1 The contractor shall carry out *survey* of the work area, **at his own cost, setting out** the layout of building in consultation with the Engineer & proceed further. Any discrepancy between the architectural drawings and actual layout at site shall be brought to the notice of the Engineer. It shall be responsibility of the contractor to ensure correct setting out of alignment. Total station survey instruments only shall be used for layout, fixing boundaries, and center lines, etc., along with theodolites. ***Nothing extra shall be payable*** on this account.

6.15.2 The contractor shall establish, maintain and assume responsibility for grades, lines, levels and benchmarks. He shall report any errors or inconsistencies regarding grades, lines, levels, dimensions etc. to the Engineer before commencing work. Commencement of work shall be regarded as the Contractor's acceptance of such grades, lines, levels, and dimensions and no claim shall be entertained at a later date for any errors found.

6.15.3 If at any time, any error appears due to grades, lines, levels and benchmarks during the progress of the work, the contractor shall, at his own expense rectify such error, if so required, to the satisfaction of the Engineer. ***Nothing extra shall be payable*** on this account.

- 6.15.4 Though the site levels are indicated in the drawings the contractor shall ascertain and confirm the site levels with respect to benchmark from the concerned authorities. The contractor shall protect and maintain temporary/permanent benchmarks at the site of work throughout the execution of work. These benchmarks shall be got checked by the Engineer or his authorized representatives. The work at different stages shall be checked with reference to bench marks maintained for the said purpose. ***Nothing extra shall be payable*** on this account.
- 6.15.5 The approval by the Engineer, of the setting out by the contractor, shall not relieve the contractor of any of his responsibilities and obligation to rectify the errors/ defects, if any, which may be found at any stage during the progress of the work or after the completion of the work.
- 6.15.6 The contractor shall be entirely and exclusively responsible for the horizontal, vertical and other alignments, the level and correctness of every part of the work and shall rectify effectively any errors or imperfections therein. Such rectifications shall be carried out by the contractor ***at his own cost*** to the entire satisfaction of the Engineer.
- 6.15.7 The ***rates quoted by the Contractor*** are deemed to be ***inclusive*** of site clearance, setting out work (*including marking of reference points, center lines of buildings*), construction and maintenance of reference bench mark(s), taking spot levels, construction of all safety and protection devices, barriers, barricading, signage, labour safety, labour welfare and labour training measures, preparatory works, working during monsoon, working at all depths, height and location etc. and any other incidental works required to complete this work. ***Nothing extra shall be payable*** on this account.

6.16 RECESS, HOLES, OPENINGS, ETC

The contractor shall leave such recesses, holes, openings, etc. as may be required for the electric, air-conditioning and other related works for which inserts, sleeves, brackets, conduits, base plates, clamps etc. and the contractor shall fix the same at the time of casting of concrete, stone work & brick work or at any similar location if required, and ***nothing extra shall be payable*** on this account.

6.17 JURISDICTION OF COURT

Courts at Delhi/Noida alone shall have the jurisdiction to decide any dispute arising out of or in respect of this contract.

6.18 ALL HEIGHTS, LIFTS, LEADS AND DEPTHS

Unless otherwise provided in the Schedule of quantities or in CPWD Specifications or in tender document, the rates tendered by the contractor shall be ***all inclusive (except GST)*** and shall apply to all heights, lifts, leads and depths of the building and nothing extra shall be payable to him on this account.

6.19 Deleted

6.20 PREVENTION OF NUISANCE AND POLLUTION CONTROL

The contractor shall take all necessary precautions to prevent any nuisance or inconvenience to the owners, tenants or occupiers of adjacent properties and to the public in general and to prevent any damage to such properties from pollutants like smoke, dust, noise. The contractor shall use such

methodology and equipment so as to cause minimum environmental pollution of any kind during and minimum hindrance to road users and to occupants of the adjacent properties or other services running adjacent/near vicinity. The contractor shall make good at his cost and to the satisfaction of the Engineer, any damage to roads, paths, cross drainage works or public or private property whatsoever caused due to the execution of the work or by traffic brought thereon by the contractor. All waste or superfluous materials shall be carried away by the contractor, without any reservation, entirely to the satisfaction of the Engineer.

6.21 Deleted

6.22 SCAFFOLDING / SHUTTERING

Wherever required for the execution of work, all the scaffolding shall be provided and suitably fixed by the contractor. It shall be provided strictly with steel double scaffolding system, suitably braced for stability, with all the accessories, gangways, etc. with adjustable suitable working platforms to access the areas with ease for working and inspection. It shall be designed to take all incidental loads. It should cater to the safety features for workmen. ***Nothing extra shall be payable*** on this account. It shall be ensured that no damage is caused to any structure due to the scaffolding.

Only steel shuttering, unless otherwise specified, with suitably designed steel frame supporting system is to be used in the work. The contractor shall ensure that there shall be ***no leakage at formwork joints*** and there shall be no movement at joints or bending of the formwork under pressure of the concrete. ***Nothing extra shall be paid*** on this account.

6.23 PRODUCT DELIVERY, STORAGE AND HANDLING OF CHEMICALS

- (i) The contractor shall construct storage space for Chemicals materials to ensure that the storage conditions are as recommended by the manufactures.
- (ii) All the materials shall be procured and delivered in sealed containers with labels legible and intact.
- (iii) All the chemicals {polymers, epoxy, water proofing compound, plasticizer, Polysulphide, SBR based elastomeric, APP (Atactic Polypropylene Polymer), all exterior and interior paints, polish etc.} shall be procured in convenient packs say 20 litres/Kgs. capacity packing only or as approved by the Engineer, and not in bigger capacity containers, say 200 litre (Kgs.) drums unless otherwise specifically permitted by the Engineer. One sample from each lot of the chemical procured by the contractor shall be tested in a laboratory as approved by the Engineer.
- (iv) All material required for the execution of the work shall be got approved, procured and deposited with the Contractor's supervisory staff. The watch and ward of such material shall, however, remain to be the responsibility of the contractor and no claim, whatsoever, on this account shall be entertained. Different containers of each chemical shall be serially numbered on packing and also consumed in that order. Day- to-Day account of receipt, issue and balance shall be regulated by the Contractor and proper account shall be maintained at site of work in the prescribed form as per the standard practice.
- (v) All the chemicals shall be procured by the contractor directly from the manufacturer. In exceptional circumstances, the contractor may be allowed to procure the materials from the authorized

dealers of the manufacturers.

- (vi) The original copies of challan/cash memos towards the quantity of various chemicals procured shall be made available by the contractor at the request from the Engineer and a copy of the same shall be kept in record.
- (vii) The Name of manufacturers, manufacturer's product identification, manufacturer's mixing instructions, warning for handling and toxicity and date of manufacturing and shelf life shall be clearly and legibly mentioned on the labels of the each container.
- (viii) The contractor shall submit for the chemicals procured, manufacturer's and / or authorized dealer's certificate regarding supplying and verifying conformance to the material specifications, as specified.
- (ix) All filled containers shall be handled in safe manner and in a way to avoid breaking container seals.
- (x) All arrangements for measuring, dosing and mixing of material / chemicals at site have to be made by the contractor.
- (xi) Contractor shall suitably advise his site Engineer and all the workers as regards safe handling of chemicals. Necessary protective and safety equipment in form of hand gloves, goggles etc. shall be provided by the contractor and be also used at site.
- (xii) All incidental charges of any kind including cartage, storage and wastage and safe custody of material etc. shall be borne by the contractor and no claim, whatsoever, shall be entertained on this account.
- (xiii) The chemicals shall be tested in an independent laboratory as approved by the Engineer at the frequency as specified. If required, more samples may have to be tested as per the directions of the Engineer. ***Nothing extra shall be payable*** on this account.

6.24 De-watering:

- (i) De-watering required, if any, shall be done conforming to BIS Code IS: 9759 (*guide lines for de-watering during construction*) and / or as per the specifications approved by the Engineer. Design of an appropriate and suitable dewatering system shall be the Contractor's responsibility.
- (ii) Such scheme shall be modified / augmented as the work proceeds based on fresh information discovered during the progress of work, ***at no extra cost***. At all times during the construction work, efficient drainage of the site shall be carried out by the Contractor and especially during the laying of plain cement concrete, taking levels etc. The Contractor shall also ensure that there is no danger to the nearby properties and installations on account of such lowering of water table. If needed, suitable precautionary measures shall be taken by the Contractor. Also the scheme of dewatering adopted shall have adequate built in arrangement to serve as stand-by to attend to repair of pumps etc. and disruption of power / fuel supply. ***Nothing extra shall be payable*** on this account.
- (iii) In trenches where surface water is likely to get into cut / trench during monsoons, a ring bund of puddle clay or by any other means shall be formed outside, to the required height, and maintained by the Contractor. Also, suitable steps shall be taken by the Contractor to prevent back flow of pumped water into the trench. ***Nothing extra shall be payable*** on this account.
- (iv) For works below ground level the contractor shall keep that area free from water. If dewatering or bailing out of the water is required, the contractor shall do the same at ***his own cost and***

nothing extra shall be paid. It is intimated that the foundation depth and water table below the ground level may be approximately at the same level. So most likely, the water table may be struck in the excavation of foundation. ***Nothing extra shall be paid*** for execution of work in or under water and / or liquid mud including pumping out of water as required.

PART-I CHAPTER-V
SPECIAL CONDITIONS OF CONTRACT
ADDITIONAL CONDITIONS FOR CEMENT AND STEEL (SECTION-3)

7 Procurement of materials

7.1 **Bitumen:** As per norms from reputed manufacturers.

7.2 Cement

7.2.1 The contractor shall procure Ordinary Portland Cement conforming to IS 12269 and Portland Pozzolana cement conforming to IS: 1489 [Part 1], as required in the work, from reputed manufacturers of cement **such as UltraTech, Ambuja cement and J.K. cement** or as approved by the Engineer/DFCCIL.

The supply of cement shall be taken in 50 kg bags bearing manufacturer's name and ISI marking or in Bulk.

Samples of cement arranged by the contractor shall be taken by the Engineer and got tested in accordance with provisions of relevant BIS codes. In case the test results indicate that the cement arranged by the contractor does not conform to the relevant BIS codes, the same shall stand rejected, and it shall be removed from the site by the contractor at his own cost within a week's time of written order from the Engineer to do so.

7.2.2 The **cement godown** of suitable capacity to store of cement shall be constructed by the contractor at site of work for which ***no extra payment shall be made.***

7.2.3 The contractor shall be responsible for the watch and ward and safety of the cement godown. The contractor shall facilitate the inspection of the cement godown by the Engineer at any time.

7.2.4 The cement shall be got tested by the Engineer and shall be used on the work only after satisfactory test results have been received. The contractor shall supply free of charge the cement required for testing including its transportation to testing laboratories. The ***cost of tests shall be borne by the contractor.***

7.2.5 The actual issue and consumption of cement on work site shall be regulated and proper accounts maintained.

7.2.6 The cement brought to the site and the cement remaining unused after completion of the work shall not be removed from site without the written permission of the Engineer.

7.2.7 The damaged cement shall be removed from the site immediately by the contractor on receipt of a notice in writing from the Engineer. If he does not do so within 3 days of receipt of such notice, the Engineer shall get it removed ***at the cost of the contractor.***

- 7.2.8 The day to day receipt and issue accounts of the cement bags shall be maintained in the register as per following proforma and daily signed by the contractor or his authorized representative and by the representative of Engineer.

Particular of receipt			Particulars of issue								Remarks
Date of receipt	Quantity received	Progressive total	Date of issue	Quantity issued	Items of work for which issued	Quantity returned at the end of the day	Total issued	Daily balance in hand	Contractor initials	Engineer's initials	DFCCIL's initials
1	2	3	4	5	6	7	8	9	10	11	12

- 7.2.9 Where ready mix concrete is stipulated to be used from an approved source / manufacture, the computerized dispatch slips that are sent with each dispatch of RMC shall be kept on record.

- 7.2.10 The cement to be used for all works will be PPC / OPC unless otherwise specifically mentioned in the tender documents.

7.3 CONDITIONS FOR REINFORCEMENT STEEL: -

- 7.3.1 The contractor shall procure TMT bars of Fe 500D / Fe 550 / Fe 550D grade *from primary producers* such as **SAIL, Tata Steel Ltd., RINL, Jindal Steel & Power Ltd. and JSW Steel Ltd.** or any other producer as approved by **DFCCIL / RDSO**.

- The grade of the steel such as Fe 500D / Fe 550 / Fe 550D or other grade to be procured is to be specified as per BIS: 1786 - 2008.
- The TMT bars procured from primary producers and ISPs shall conform to manufacturer's specifications.
- TMT bars procured shall meet the provisions of IS 1786: 2008 pertaining to Fe 500D / Fe 550 / Fe 550D or other grade of steel as specified in the tender.

- 7.3.2 Samples shall also be taken and got tested by the Engineer as per the provisions in this regard in relevant BIS codes. In case the test results indicate that the steel arranged by the contractor does not conform to the specifications as defined above, the same shall stand rejected, and it shall be removed from the site of work by the contractor at his cost within a week time of written orders from the Engineer to do so.

7.3.3 Deleted

- 7.3.4 The steel reinforcement bars shall be stored by the contractor at site of work in such a way as to *prevent distortion and corrosion* and *nothing extra shall be paid* on this account. Bars of different sizes and lengths shall be stored separately to facilitate easy counting and checking.

- 7.3.5 For checking nominal mass, tensile strength, bend test, re-bend test, etc. specimen of sufficient length shall be cut from each size of the bar at random at frequency not less than that specified below:

Dia of bar	For consignment below 100 tonnes	For consignment above 100 tonnes
Under 10 mm	One sample for each 25 tonnes or part thereof	One sample for each 40tonnes or part thereof
10 mm to 16mm	One sample for each 35 tonnes or part thereof	One sample for each 45tonnes or part thereof
Over 16mm	One sample for each 45 tonnes or part thereof	One sample for each 50tonnes or part thereof

- 7.3.6 The contractor shall supply free of charge the steel required for testing including its transportation to testing laboratories. ***The cost of tests shall be borne by the contractor.***
- 7.3.7. All ***other charges*** of sampling, packing and transportation of sample shall also be ***borne by the Contractor.***
- 7.3.8 The actual issue and consumption of steel on work shall be regulated and proper accounts maintained.
- 7.3.9 Steel brought to site and remaining unused shall not be removed from site without the written permission of Engineer.
- 7.3.9(i) Reinforcement including authorized spacer bars and lappages shall be measured in length for different diameters as actually (*not more than as specified in the drawings*) used in the work nearest to a centimetre. Wastage and unauthorized overlaps shall not be measured.
- (ii) The standard sectional weights referred to shall be as in Table 5.4 in para 5.3.4 in revised CPWD specifications 2009 Vol. I will be considered for conversion of length of various sizes of TMT bars in to standard weight.
- (iii) Record of actual sectional weights shall also be kept dia wise and lot wise. The average sectional weight for each diameter shall be arrived at from samples from each lot of steel received at site. The decision of the Engineer shall be final for the procedure to be followed for determining the average sectional weight of each lot. Quantity of each diameter of steel received at site of work each day will constitute one single lot for the purpose. The weight of steel by conversion of length of various sizes of bars based on the actual weighted average sectional weight shall be termed as Derived Actual Weight.
- a. If the derived weight as in sub-para (iii) above is less than the standard weight as in sub-para (ii) above, then the Derived Actual Weight shall be taken for payment.

- b. If the derived actual weight is found more than the standard weight, than standard weight as worked out in sub para (ii) above shall be taken for payment. Nothing shall be paid extra for the difference in Derived/ Actual Weight and standard weight.
- 7.3.10 Every care should be taken to avoid mixing different types of grades of bars in the same structural members as main reinforcement to satisfy relevant clause of IS: 456. In case of buildings, wherever the situation necessitates, the changeover shall be permitted only from any one level onwards. In case of foundations, all foundation elements (*footings and grade beams*) shall have the same kind of steel. In the case of columns, all structural elements up to the level of change, where the changeover is taking place should have the same kind of steel as those in columns.
- 7.3.11 The reinforcing steel brought to site of work shall be stored on brick / timber platform of 30/40-cm height, ***nothing extra shall be paid*** on this account.

PART-I CHAPTER-V

SPECIAL CONDITIONS OF CONTRACT

METHODOLOGIES FOR GREEN BUILDINGS (SECTION-4)

8.1 To secure at least **5-Star GRIHA** ratings, a high degree of responsibility and cooperation is necessary from the contractor employed.

8.2 The following guideline provides the general concept of green, green building rating and the expectations from each one of those involved in this project:

8.3 GENERAL NOTE ON GREEN BUILDING PRACTICES

All materials and systems used in the project are intended to maximize energy efficiency for operation of Project throughout service life (*substantial completion to ultimate disposition – reuse, recycling, or demolition*) with an emphasis on top quality. Materials and systems are to maximize environmentally-benign construction techniques, including construction waste recycle, reusable delivery packaging, and reusability of selected materials. All vendors / contractors must adhere to best practices related to Green Buildings. Other than the particular specifications / methodologies for green buildings outlined here, all vendors / contractors will be furnished with a supplementary set of guidelines more specific to their nature of service/product.

8.4 GREEN BUILDING PRACTICES:

8.4.1 Ensure healthy indoor air quality in final Project.

8.4.2 Maximize use of products with low embodied energy (*harvesting, mining, manufacturing, transport, installation, use, operations, recycling and disposal*). Exceptions might include materials that result in net energy conservation during their useful life in building and building's life cycle.

8.4.2.1 Where possible, select materials harvested and manufactured regionally, within a 800-km radius of the project site.

8.4.2.2 Maximize use of durable products.

8.4.2.3 Maximize use of products easy to maintain, repair, and that can be cleaned using non-toxic substances.

8.4.2.4 Maximize recycled content in materials, products, and systems.

8.4.2.5 Maximize use of reusable and recyclable packaging.

8.4.2.6 Where possible and feasible, provide for non-destructive removal and re-use of materials after their service life in this building.

8.4.3 Re-use existing building materials to extent feasible within design concept expressed in Contract Documents. Provide materials that utilize recycled content to maximum degree possible without being detrimental to product performance or indoor air quality.

- 8.4.4 Use construction practices such as material waste reduction and dimensional planning that maximize efficient use of resources and materials.
- 8.4.5 Provide or contribute to O&M Manuals wherever applicable.
- 8.4.6 Be conversant with the Site Waste Management Program Manual and actively contribute to its compilation. Assist the Engineer by estimating the nature and volume of waste generated by the process/installation in question.
- 8.4.7 Minimize pollution: Select materials that generate least amount of pollution during mining, manufacturing, transport, installation, use, and disposal.
 - 8.4.7.1 Avoid materials that emit greenhouse gases
 - 8.4.7.2 Avoid materials that require energy intensive extraction, manufacturing, processing, transport, installation, maintenance, or removal.
 - 8.4.7.3 Avoid materials that contain ozone-depleting chemicals (*e.g. CFCs or HCFCs*).
 - 8.4.7.4 Avoid materials that emit potentially harmful volatile organic chemicals (VOCs).
 - 8.4.7.5 Employ construction practices that minimize dust production and combustible by- products.
 - 8.4.7.6 Avoid materials that can leach harmful chemicals into ground water; do not allow potentially harmful chemicals to enter sewers or storm drains.
 - 8.4.7.7 Protect soil against erosion by wind or storm-water and topsoil depletion.
 - 8.4.7.8 Minimize noise generation during construction; screen mechanical equipment to block noise.
 - 8.4.7.9 Select materials that can be reused or recycled and materials with significant percentage of recycled content; conform with or exceed specified Project recycled content percentages for individual materials; avoid materials difficult to recycle. Protect natural habitats; restore natural habitats where feasible within scope of Project.

PART-I CHAPTER-V

SPECIAL CONDITIONS OF CONTRACT

CONDITIONS OF CONTRACT SPECIFIC TO GREEN BUILDING PRACTICES (SECTION-5)

- 9.0** The contractor shall strictly adhere to the following conditions as part of his contractual obligations as the project is targeted to get **5-Star GRIHA** ratings certification:
- 9.1 SITE**
- 9.1.1** The contractor shall ensure that adequate measures are taken for the prevention of erosion of the top soil during the construction phase. The contractor shall implement the Erosion and Sedimentation Control Plan (ESCP) provided to him by the GRIHA Consultant / Architect / Engineer as part of the larger Construction Management Plan (CMP). The contractor shall obtain the Erosion and Sedimentation Control Plan (ESCP) Guidelines from the Landscape Architect and then prepare “working plan” for the following month’s activities as a CAD drawing showing the construction management, staging & ESCP. At no time, soil should be allowed to erode away from the site and sediments should be trapped where necessary.
- 9.1.2** The contractor shall ensure that all the top soil excavated during construction works is neatly stacked and is not mixed with other excavated earth. The contractors shall take the clearance of the architects / landscape consultant / green building Consultant/Engineer before any excavation. Top soil should be stripped to a depth of approximately 20 cm (*centimetres*) from the areas to be disturbed, for example proposed area for buildings, roads, paved areas, external services and area required for construction activities etc. It shall be stockpiled within the plot area only to a maximum height of 40 cm in designated areas, covered or stabilized with temporary seeding for erosion prevention. This stockpiled soil in the end shall be reapplied to site during plantation of the proposed vegetation. Top soil shall be separated from subsoil, debris and stones larger than 50 mm (*millimetre*) diameter.
- 9.1.3** The contractor shall carry out the recommendations of the soil test report for improving the soil under the guidance of the landscape consultant who would also advise on the timing of application of fertilizers and warn about excessive nutrient levels.
- 9.1.4** The contractor shall carry out post-construction placement of topsoil or other suitable plant material over disturbed lands to provide suitable soil medium for vegetative growth. Prior to spreading the topsoil, the sub-grade shall be loosened to a depth of 50mm to permit bonding. Topsoil shall be spread uniformly at a minimum compacted depth of 50mm on grade 1:3 or steeper slopes, a minimum depth of 100mm on shallower slopes. A depth of 300mm is preferred on relatively flatter land.
- 9.1.5** The Contractor should follow the construction plan as proposed by the architect / landscape Consultant/Engineer to minimize the site disturbance such as soil pollution due to spilling. Use staging and spill prevention and control plan to restrict the spilling of the contaminating material on site. Protect top soil from erosion by collection storage and reapplication of top soil, constructing sediment basin, contour trenching, mulching etc.

- 9.1.6 The barricading by sheets of the construction area shall be done as per direction of Engineer.
- 9.1.7 The contractor shall not change the natural gradient of the ground unless specifically instructed by the architects / landscape consultant. This shall cover all-natural features like water bodies, drainage gullies, slopes, mounds, depressions, rocky outcrops, etc. Existing drainage patterns through or into any preservation area shall not be modified unless specifically directed by the Landscape Architect / Architect/ Engineer.
- 9.1.8 The contractor shall not carry out any work which results in the blockage of natural drainage.
- 9.1.9 The contractor shall ensure that existing grades of soil shall be maintained around existing vegetation and lowering or raising the levels around the vegetation is not allowed unless specifically directed by the landscape architect/architect/Engineer
- 9.1.10 Contractor shall reduce pollution and land development impacts from automobiles use during construction.
- 9.1.11 Overloading of trucks is unlawful and creates erosion and sedimentation problems, especially when loose materials like stone dust, excavated earth, sand etc. are moved. Proper covering must take place. No overloading shall be permitted.

9.2 CONSTRUCTION PHASE AND WORKER FACILITIES

- 9.2.1 The contractor shall specify and limit construction activity in pre-planned/designated areas and shall start construction work after securing the approval for the same from the Engineer. This shall include areas of construction, storage of materials, and material and personnel movement.
- 9.2.2 Preserve and Protect Landscape during Construction
- 9.2.3 The contractor shall ensure that no trees, existing or otherwise, shall be harmed and damage to roots should be prevented during trenching, placing backfill, driving or parking heavy equipment, dumping of trash, oil, paint, and other materials detrimental to plant health. These activities should be restricted to the areas outside of the canopy of the tree, or, from a safe distance from the tree/plant by means of barricading. Trees will not be used for support; their trunks shall not be damaged by cutting and carving or by nailing posters, advertisements or other material. Lighting of fires or carrying out heat or gas emitting construction activity within the ground, covered by canopy of the tree is not to be permitted.
- 9.2.4 The contractor shall take steps to protect trees or saplings identified for preservation within the construction site have to be protected using tree guards as per Engineer. ***Nothing extra shall be payable*** on this account.
- 9.2.5 The contractor shall conserve existing natural areas and restore damaged areas to provide habitat and promote biodiversity. Contractor should limit all construction activity within the specified area as per the Construction Management Plan (CMP) proposed by the architect / Landscape consultant/Engineer. All the existing trees should be preserved, if not possible than compensate the loss by re-planting trees in the proportion of 1:3.
- 9.2.6 The contractor shall avoid cut and fill in the root zones, through delineating and fencing the drip line (*the spread limit of a canopy projected on the ground*) of all the trees or group of trees. Separate the zones of movement of heavy equipment, parking, or excessive foot traffic from the fenced plant protection zones.

- 9.2.7 Maintenance activities shall be performed as needed to ensure that the vegetation remains healthy. The preserved vegetated area shall be inspected by the Landscape Architect / Architect / Engineer at regular intervals so that they remain undisturbed.
- 9.2.8 Contractor shall be required to develop and implement a waste management plan, quantifying material diversion goals. He shall establish goals for diversion from disposal in landfills and incinerators and adopt a construction waste management plan to achieve these goals. A project-wide policy of “Nothing leaves the Site” should be followed. In such a case when strictly followed, care would automatically be taken in ordering and timing of materials such that excess doesn’t become “waste”. The Contractor’s ingenuity is especially called towards meeting GRIHA LD requirement. Consider recycling cardboard, metal, brick, acoustical tile, concrete, plastic, clean wood, glass, gypsum wallboard, carpet and insulation. Designate a specific area(s) on the construction site for segregated or collection of recyclable material, and track recycling efforts throughout the construction process. Identify construction haulers and recyclers to handle the designated materials. Note that diversion may include donation of materials to charitable organizations and salvage of materials on-site.
- 9.2.9 Contractor shall collect all construction waste generated on site. Segregate these wastes based on their utility and examine means of sending such waste to manufacturing units which use them as raw material or other site which require it for specific purpose. Typical construction debris could be broken bricks, steel bars, broken tiles, spilled concrete and mortar etc.
- 9.2.10 The contractor shall comply with the safety procedures, norms and guidelines (*as applicable*) as outlined in the document Part 7, Constructional Management Practices and Safety, National Building Code of India (NBC) 2016 issued by Bureau of Indian Standards which has safety measures for different construction activities.
- 9.2.11 The contractor shall provide clean drinking water for all workers
- 9.2.12 The contractor shall provide the minimum level of sanitation and safety facilities for the workers at site. The contractor shall ensure cleanliness of workplace with regard to the disposal of waste and effluent; provide clean drinking water and latrines and urinals as per applicable standard. Adequate toilet facilities shall be provided for the workman within easy access of their place of work. The total no. to be provided shall not be less than 1 per 30 employs in any one shift. Toilet facilities shall be provided from the start of building operations, connection to a sewer shall be made as soon as practicable. Every toilet shall be so constructed that the occupant is sheltered from view and protected from the weather and falling objects. Toilet facilities shall be maintained in a sanitary condition. A sufficient quantity of disinfectant shall be provided. Natural or artificial illumination shall be provided.
- 9.2.13 The contractor shall ensure that air pollution due to dust/generators is kept to a minimum, preventing any adverse effects on the workers and other people in and around the site. The contractor shall ensure proper screening, covering stockpiles, covering brick and loads of dusty materials, wheel-washing facility, gravel pit, and water spraying. Contractor shall ensure the following activities to prevent air pollution during construction:
- a) Clear vegetation only from areas where work will start right away
 - b) Vegetate / mulch areas where vehicles do not ply.
 - c) Apply gravel / landscaping rock to the areas where mulching / paving is impractical
 - d) Identify roads on-site that would be used for vehicular traffic. Upgrade vehicular roads (*if these are unpaved*) by increasing the surface strength by improving particle size, shape and mineral types that make up the surface & base. Add surface gravel to reduce source of dust emission. Limit amount of fine particles (*smaller than 0.075mm*) to 10 – 20%

- e) Water spray, through a simple hose for small projects, to keep dust under control. Fine mists should be used to control fine particulate. However, this should be done with care so as not to waste water. Heavy watering can also create mud, which when tracked onto paved public roadways, must be promptly removed. Also, there must be an adequate supply of clean water nearby to ensure that spray nozzles don't get plugged. Water spraying can be done on:

9.2.13.1 Any dusty materials before transferring, loading and unloading

9.2.13.2 Area where demolition work is being carried out

9.2.13.3 Any un-paved main haul road

9.2.13.4 Areas where excavation or earth moving activities are to be carried out

- a) The contractor shall ensure that the speed of vehicles within the site is limited to 10 km/hr.
- b) All material storages should be adequately covered and contained so that they are not exposed to situations where winds on site could lead to dust / particulate emissions.
- c) Spills of dirt or dusty materials will be cleaned up promptly so the spilled material does not become a source of fugitive dust and also to prevent of seepage of pollutant laden water into the ground aquifers. When cleaning up the spill, ensure that the clean-up process does not generate additional dust. Similarly, spilled concrete slurries or liquid wastes should be contained / cleaned up immediately before they can infiltrate into the soil / ground or runoff in nearby areas
- d) Provide hoardings of not less than 3m high along the site boundary, next to a road or other public area
- e) Provide dust screens, sheeting or netting to scaffold along the perimeter of the building
- f) Cover stockpiles of dusty material with impervious sheeting
- g) Cover dusty load on vehicles by impervious sheeting before they leave the site

9.2.14 Contractor shall be required to provide an easily accessible area that serves the entire building and is dedicated to the separation, collection and storage of materials for recycling including (*at a minimum*) paper, corrugated cardboard, glass, plastics, and metals. He shall coordinate the size and functionality of the recycling areas with the anticipated collections services for glass, plastic, office paper, newspaper, cardboard, and organic wastes to maximize the effectiveness of the dedicated areas. Consider employing cardboard balers, aluminum can crushers, recycling chutes, and collection bins at individual workstations to further enhance the recycling program.

9.2.15 The contractor shall ensure that no construction leachate (*Ex: cement slurry*), is allowed to percolate into the ground. Adequate precautions are to be taken to safeguard against this including, reduction of wasteful curing processes, collection, basic filtering and reuse. The contractor shall follow requisite measures for collecting drainage water run-off from construction areas and material storage sites and diverting water flow away from such polluted areas. Temporary drainage channels, perimeter dike/swale, etc. shall be constructed to carry the pollutant-laden water directly to the treatment device or facility (*municipal sewer line*).

- 9.2.16 Staging (*dividing a construction area into two or more areas to minimize the area of soil that will be exposed at any given time*) should be done to separate undisturbed land from land disturbed by construction activity and material storage.
- 9.2.17 Comply with the safety procedures, norms and guidelines (*as applicable*) as outlined in the document Part 7 Constructional Management Practices and Safety, NBC 2016 issued by Bureau of Indian Standards. A copy of all pertinent regulations and notices concerning accidents, injury and first-aid shall be prominently exhibited at the work site. Depending upon the scope & nature of work, a person qualified in first-aid shall be available at work site to render and direct first-aid to casualties. A telephone may be provided to first-aid assistant with telephone numbers of the hospitals displayed. Complete reports of all accidents and action taken thereon shall be forwarded to the competent authorities.
- 9.2.18 Adopt additional best practices, prescribed norms as in Doc No. CED 46(6086), July 2003: NBC 2016: Part 7 Constructional Management Practices and Safety issued by Bureau of Indian Standards
- 9.2.19 The storage of material shall be as per standard good practices as specified in Part 7, Section 2 - Storage, Stacking and Handling practices, NBC 2016 and shall be to the satisfaction of the Engineer to ensure minimum wastage and to prevent any misuse, damage, inconvenience or accident. Watch and ward of the Contractor's materials shall be his own responsibility. There should be a proper planning of the layout for stacking and storage of different materials, components and equipment with proper access and proper maneuverability of the vehicles carrying the materials. While planning the layout, the requirements of various materials, components and equipment at different stages of construction shall be considered. The Employer/Engineer/DFCCIL shall not take any responsibility on any account.
- 9.2.20 The contractor shall ensure the following activities for construction workers safety, among other measures:
- a) Guarding all parts of dangerous machinery.
 - b) Precautionary signs for working on machinery
 - c) Maintaining hoists and lifts, lifting machines, chains, ropes, and other lifting tackles in good condition.
 - d) Durable and reusable formwork systems to replace timber formwork and ensure that formwork where used is properly maintained.
 - e) Ensuring that walking surfaces or boards at height are of sound construction and are provided with safety rails or belts.
 - f) Provide protective equipment; helmets etc.
 - g) Provide measures to prevent fires. Fire extinguishers and buckets of sand to be provided in the fire-prone area and elsewhere.
 - h) Provide sufficient and suitable light for working during night time.
- 9.2.21 The contractor shall provide for adequate number of garbage bins around the construction site and the workers facilities and will be responsible for the proper utilization of these bins for any solid waste

generated during the construction. The contractor shall ensure that the site and the workers facilities are kept litter free. Separate bins should be provided for plastic, glass, metal, biological and paper waste and labelled in both Hindi and English.

9.2.22 The contractor shall prepare and submit 'Spill prevention and control plans' before the start of construction, clearly stating measures to stop the source of the spill, to contain the spill, to dispose the contaminated material and hazardous wastes, and stating designation of personnel trained to prevent and control spills. Hazardous wastes include pesticides, paints, cleaners, and petroleum products.

9.2.23 Contractor shall collect the relevant material certificates for materials with high recycled (*both post-industrial and post-consumer*) content.

9.2.24 Contractor shall collect the relevant material certificates for rapidly renewable materials such as bamboo, wool, cotton insulation, agrifiber, linoleum, wheat board, strawboard and cork.

9.2.25 Deleted

9.2.26 The contractor shall ensure that a flush out of all internal spaces is conducted prior to handover. This shall comprise an opening of all doors and windows for 14 days to vent out any toxic fumes due to paints, varnishes, polishes, etc.

9.2.27 Contractor shall make efforts to reduce the quantity of indoor air contaminants that are odorous or potentially irritating harmful to the comfort and well-being of installer and building occupants. Contractor shall ensure that the VOC (*Volatile Organic Compounds*) content of paints, coatings and primers used must not exceed the VOC content limits mentioned below:

Paints

Anti-corrosive/ anti rust - 250 g/L

Coatings / Clear wood finishes Varnish - 350 g/L

Lacquer - 550 g/L

Floor coatings - 100 g/L Stains - 250 g/L Sealers

Waterproofing sealer - 250 g/L

Sanding sealer - 275 g/L

Other sealants - 200 g/L

The VOC (*Volatile Organic Compounds*) content of adhesives and sealants used must be less than VOC content limits mentioned:

Architectural Applications VOC Limit (*g/l less water*)

Indoor Carpet adhesives - 50

Pad Adhesives - 50

Wood Flooring Adhesives - 100

Floor Adhesives - 60

Sub Floor Adhesives - 50

Ceramic Tile Adhesives - 65

VCT and Asphalt Tile adhesive - 50

Dry Wall and Panel Adhesives - 50

Structural Glazing Adhesives - 100

Multipurpose Construction Adhesives - 70

Substrate Specific Application VOC Limit (*g/l less water*) Metal to Metal - 30

Plastic Foams - 50

Porous material (*except wood*) - 50 Wood –
30

Fiber Glass – 80

9.2.28 Wherever required, Contractor shall meet and carry out documentation of all activities on site, supplementation of information, and submittals in accordance with GRIHA LD program standards and guidelines. Towards meeting the aforementioned building environmental rating standard(s) expert assistance shall be provided to him up on request.

9.2.29 Contractor shall provide quantities, manufacturer's data, O&M manuals, and Certificates required from manufacturer in accordance with GRIHA LD program requirement for all equipment and materials.

9.2.30 Water Use during Construction

Contractor should spray curing water on concrete structure and shall not allow free flow of water. After liberal curing on the first day, all the concrete structures should be painted with curing chemical to save water. Areas on which the curing compound is to be used shall be decided by Engineer (*as on some areas water may also be used for curing*) for water curing nothing shall be paid extra. Concrete structures should be kept covered with thick cloth/gunny bags and water should be sprayed on them. Contractor shall do water ponding on all sunken slabs using cement and sand mortar.

9.2.31 The Contractor shall remove from site all rubbish and debris generated by the Works and keep Works clean and tidy throughout the Contract Period. All the serviceable and non- serviceable (*malba*) material shall be segregated and stored separately. The malba obtained during construction shall be collected in well-formed heaps at properly selected places, keeping in a view safe condition for workmen in the area. Materials which are likely to cause dust nuisance or undue environmental pollution in any other way, shall be removed from the site at the earliest in the plot elsewhere and ***nothing extra shall be paid*** for cartage within the campus and till then they shall be suitable

covered. Glass & steel should be dumped or buried separately to prevent injury. The work of removal of debris should be carried out during day. In case of poor visibility artificial light may be provided. Debris shall be disposed in the campus within a lead of 2 kms by digging a well and properly covering the same with soil. ***Nothing extra shall be paid*** for this.

9.3 MATERIALS & FIXTURES FOR THE PROJECT

9.3.1 All materials sourced specifically for construction at this project, shall be strictly sourced from a distance (*as specified in GRIHA guidelines*) from the project site. Contractor shall collect the relevant material certificates to prove the same

- a) Any material that is to be sourced from outside the prescribed radius shall be done after securing the necessary approval from the Engineer.
- b) All cement used at site for mortar, plaster, building blocks, etc. shall be PPC (*Portland Pozzolana Cement*) unless otherwise specifically mentioned in the tender documents. The PPC must meet the requirements of IS 1489: 1991.
- c) As a measure to reduce wastage and water consumption during construction, the contractor shall source or set up the infrastructure for a batch mix concrete.
- d) The contractor has to comply as per MoEF issued notification 8.0.763(E) dated 14th Sept.1999 containing directive for greater fly ash utilization, where it stipulates.
- e) The contractor shall ensure that all paints, polishes, adhesives and sealants used both internally and externally, on any surface, shall be Low VOC products. The contractor shall get prior approval from the Architects and the Engineer before the application of any such material.
- f) All plumbing and sanitary fixtures installed shall be as per the prescription of the Engineer and shall adhere to the minimum LPM and LPF mentioned.
- g) The contractor shall employ 100% zero ODP (*ozone depletion potential*) insulation; HCFC (*hydro-chlorofluorocarbon*)/ and CFC (*chlorofluorocarbon*) free HVAC and refrigeration equipment and/halogen-free fire suppression and fire extinguishing systems.
- h) The contractor shall ensure that all composite wood products/agro-fibre products used for cabinet work, etc. do not contain any added urea formaldehyde resin.

9.4 RESOURCES CONSUMED DURING CONSTRUCTION

- a) The contractor shall ensure that the least amount of water and electricity is wasted during construction. The Engineer can bring to the attention any such wastage and the contractor will have to ensure that such bad practices are corrected.
- b) The contractor shall install necessary meters and measuring devices to record the consumption of water, electricity and diesel on a monthly basis for the entire tenure of the project.
- c) The contractor shall ensure that all run-off water from the site, during construction is collected and reused to the maximum.
- d) The contractor shall use treated recycled water of appropriate quality standards for construction, if available.
- e) No lights shall be turned on during the period between 6:00 AM to 6:00 PM, without the permission of the Engineer.

- f) The contractor is encouraged to use bio-diesel in place of petroleum diesel for the running of generators during construction.

9.5 CONSTRUCTION WASTE

- a) Contractor shall ensure that wastage of construction material is kept to a maximum of 3%.
- b) All construction debris generated during construction shall be carefully segregated and stored in a demarcated waste yard. Clear, identifiable areas shall be provided for each waste type. Employ measures to segregate the waste on site into inert, chemical, or hazardous wastes.
- c) All construction debris shall be used for road preparation, back filling, etc., as per the instructions of the Architects and the Engineer, with necessary activities of sorting, crushing, etc. and surplus shall be disposed of in a well after digging a well for this purpose and suitably covered with soil within the 2 kms lead in the plot. ***Nothing extra shall be paid*** for this.
- d) No construction debris shall be taken away from the site, without the prior approval of the Engineer.
- e) The contractor shall recycle the unused chemical/hazardous wastes such as oil, paint, batteries, and asbestos.
- f) If and when construction debris is taken out of the site, after prior permissions from the Engineer then, the contractor shall ensure the safe disposal of all wastes and will only dispose of any such construction waste in approved dumping sites.
- g) Inert waste to be disposed of by Municipal Corporation/ local bodies at landfill sites.
- h) The facility for cleaning the tyres of trucks/ dumpers carting the material shall be provided at the entry points and sedimentation trap shall be made. ***Nothing shall be extra payable*** on this account.

9.6 Documentation

- a) The contractor shall, during the entire tenure of the construction phase, submit the following records to the Engineer on a monthly basis:
 - i) Water consumption in litres
 - ii) Electricity consumption in 'kwh' units
 - iii) Diesel consumption in litres
 - iv) Quantum of waste generated at site and the segregated waste types divided into inert, chemical and hazardous wastes.
 - v) Digital photo documentation to demonstrate compliance of safety guidelines.
- b) The contractor shall, during the entire tenure of the construction phase, submit the following records to the Engineer on a weekly basis:
 - i) Quantities of material brought into the site
 - ii) Quantities of construction debris (*if at all*) taken out of the site
 - iii) Digital photographs of the works at site, the workers facilities, the waste and other material

storage yards, pre-fabrication and block making works, etc. as guided by the Engineer.

- c) The contractor shall submit one document after construction of the buildings, a brief description along with photographic records to show that other areas have not been disrupted during construction. The document should also include brief explanation and photographic records to show erosion and sedimentation control measures adopted. Document CAD drawing showing site plan details of existing vegetation, existing buildings, existing slopes and site drainage pattern, staging and spill prevention measures, erosion and sedimentation control measures and measures adopted for top soil preservation during construction
- d) The contractor shall submit to the Engineer after construction of the buildings, a detailed as built quantification of the following:
 - i) Total materials used,
 - ii) Total top soil stacked and total reused
 - iii) Total earth excavated,
 - iv) Total waste generated,
 - v) Total waste reused,
 - vi) Total water used,
 - vii) Total electricity, and
 - viii) Total diesel consumed.
- e) The contractor shall submit to the Engineer, as built drawings after construction of the buildings as detailed.
- f) The contractor shall submit to the Engineer, before the start of construction, a site plan along with a narrative to demarcate areas on site from which top soil has to be gathered, designate area where it will be stored, measures adopted for top soil preservation and indicate areas where it will be reapplied after construction is complete.
- g) The contractor shall submit to the Engineer, a detailed narrative (*not more than 250 words*) on provision for safe drinking water and sanitation facility for construction workers and site personnel.
- h) Provide supporting document from the manufacturer of the cement specifying the fly- ash content in PPC used in reinforced concrete/ in other works.
- i) Provide supporting document from the manufacturer of the pre-cast building blocks specifying the fly ash content of the blocks used in an infill wall system.
- j) The contractor shall, at the end of construction of the buildings, submit to the Engineer, submit following information, for all material brought to site for construction purposes, including manufacturer's certifications, verifying information, and test data, where Specifications sections

require data relating to environmental issues including but not limited to:

- i) Source of products: Supplier details and location of the supplier.
- ii) Project Recyclability: Submit information to assist Employer/Engineer and Contractor in recycling materials involved in shipping, handling, and delivery, and for temporary materials necessary for installation of products.
- iii) Recycled Content: Submit information regarding product post industrial recycled and post consumer recycled content. Use the “Recycled Content Certification Form”, to be provided by the Commissioning Authority appointed for the Project.
- iv) Product Recyclability: Submit information regarding product and product’s component’s recyclability including potential sources accepting recyclable materials.
- v) Provide certification for all wood products provided by a Forest Stewardship Council (*FSC - or equivalent organization*) accredited certifier.
- vi) Provide final certification of well-managed forest of origin to provide final documentation of certified sustainably harvested status: Acceptable wood “certified sustainably harvested” certifications shall include:
 - a) Wood suppliers’ certificate issued by one of the Forest Stewardship Council-accredited certifying agencies;
 - b) Suppliers’ invoice detailing the quantities of certified wood products for project;
 - c) Letter from one of a certifying agency corroborating that the products on the wood supplier’s invoice originate from certified well-managed forests.
- k) Clean tech: Provide pollution clearance certificates from all manufacturers of materials
- l) Indoor Air quality and Environmental Issues: Submit emission test data, sourced from the manufacturers, produced by acceptable testing laboratory listed in Quality Assurance Article for materials as required in each specific Specification section.
 - a. Certifications from manufacturers of Low VOC paints, adhesives, sealant and polishes used at this particular project site.
 - b. Certification from manufacturers of composite wood products/agro fibre products on the absence of added urea formaldehyde resin in the products supplied to them to this particular site.
 - c. Submit environmental and pollution clearance certificates for all diesel generators installed as part of this project.
- m) Provide total support to the Architects / Engineer / Green Building Consultants appointed by the DFCCIL in completing all Green Building Rating related formalities, including signing of forms, providing signed letters in the contractor’s letterhead.

9.7 EQUIPMENT

- a) To ensure energy efficiency during and post construction all pumps, motors and engines used during construction or installed, shall be subject to approval and as per the specifications of the architects.
- b) All lighting installed by the contractor around the site and at the labour quarters during construction shall be CFL bulbs of the appropriate illumination levels. This condition is a must, unless specifically prescribed.

The contractor is expected to go through all other conditions of the GRIHA LD rating stipulations, which can be provided to him by the Architects/Engineer. Failure to adhere to any of the above mentioned items, without necessary clearances from the Engineer shall be deemed as a violation of contract and the contractor shall be held liable for *penalty as determined by the Engineer.*

PART-I CHAPTER-V

SPECIAL CONDITIONS OF CONTRACT

MINIMUM QUALITY ASSURANCE PLAN (CIVIL WORK) (SECTION-6)

(MQAP)

10.1 FIELD LABORATORY

Contractor shall *establish a laboratory* at site of work *at his own cost* within a period of 30 days after the date of issue of letter of acceptance of work. The laboratory shall be equipped, inter alia, with the equipment mentioned below:

List of testing equipment to be provided by the contractor at site lab.

- (a) **Balances:**
 - (i) 7 kg to 10 kg capacity, semi-self-indicating type-Accuracy 10 gm.
 - (ii) 500 gm capacity, semi-self-indicating type-Accuracy 1 gm.
- (b) **Sieves : as per IS: 460**
 - (i) 450 mm internal dia of sizes 100 mm, 80 mm, 63 mm, 50 mm, 40 mm, 25 mm, 20 mm, 12.5 mm, 10 mm, 6.3 mm, 4.75 mm, complete with lid and pan.
 - (ii) 200 mm internal dia (*brass frame*) consisting of 2.36 mm, 1.18 mm, 500 microns, 425 microns, 300 microns, 212 microns, 150 microns, 90 microns, 75 microns with lid and pan.
- c) **Sieve shaker:** Capable of 200 mm and 300 mm dia sieves, manually operated with timing switch assembly.
- d) **Equipment for slump test-** slump cone, steel plate, tamping rod, steel scale, scoop-10 Nos.
- e) **Equipment for concrete testing**
 - (i) Concrete cube moulds 15x15x15cm – 50Nos.
 - (ii) Pruning rods 2Kg weight, length 40cm and ramming face 25mm – 2 Nos.
- f) **Compression testing machine:** Capacity 100 tonnes automatic computerized.
- g) **Graduated measuring equipment:** Cylinders- 250ml, 500ml – 5 each. Beaker capacity 500 ml, 200 ml, -5 each, wash bottles capacity 50ml- 5 no. and thermometer 0-100 degree centigrade – 5 no.

- h) **Enamel trays (*for efflorescence test for bricks*)**
 - (i) 300 mm x 250 mm x 40 mm – 3 Nos.
Circular
 - (ii) plates of 250 mm dia – 3 Nos.
- i) **Ultrasonic Pulse Velocity Test Equipment (*For concrete*)** - 1 No.
- j) **Other instruments:** Measuring tape 3 m.- 10 Nos., Steel tape- 20 m, Vernier calipers, plumb bob, spirit level minimum 30 cm long with 3 bubbles, wire gauge (*Circular type*) disc, steel foot rule, long nylon thread, magnifying glass, moisture meter, Meggar (*for electrical division*), plastic bags for taking samples etc.
- k) Laser Distance Meter of 200 metre range with Bluetooth connectivity – 2 Nos.
- l) Laser level.

Equipment for site testing of fresh self compacting concrete (*Slump flow, T50 cm slump flow, V-funnel, L-Box, V-funnel at T5 minutes, etc.*).

The Contractor shall submit, a detailed and complete method statement for the execution, testing and Quality Assurance, of such items of works, as directed by the Engineer. All the materials to be used in the work, to give the finished work complete in all respects, shall comply with the requirements of the specifications and shall pass all the tests required as per specifications as applicable or such specifications / standards as directed by the Engineer. However, keeping the Quality Assurance in mind, the Contractor shall submit, on request from the Engineer, his own Quality Assurance procedures for basic materials and such items, to be followed during the execution of the work, for approval of the Engineer.

All materials and fittings brought by the contractor to the site for use shall conform to the samples approved by the Engineer which shall be preserved till the completion of the work. If a particular brand of material is specified in the item of work in Schedule of Quantity, the same shall be used after getting the same approved from Engineer. Wherever brand / quality of material is not specified in the item of work, the contractor shall submit the samples as per list of acceptable brand names given in the tender document / specifications for approval of Engineer. For all other items, materials and fittings of ISI Marked shall be used with the approval of Engineer. Wherever ISI Marked material / fittings are not available, the contractor shall submit samples of materials / fittings manufactured by firms of repute conforming to relevant specifications or IS codes and use the same only after getting the approval of Engineer.

10.2 OUTSIDE / INDEPENDENT TESTING

The Contractor shall engage outside / independent laboratories of any Government Institutes, Indian Institutes of Technology, National Institutes of Technology, Central and State Research Centres, Centrally and State funded laboratories or NABL accredited laboratories (*approved by*

Engineer/Employer) for testing of materials in accordance with relevant CPWD Specifications / IS Codes / IRC Codes / Manufacturer's Specifications, etc., if testing facility is not available in the field laboratory. Where testing facilities are not available even in aforesaid laboratories, the name of the proposed lab shall be got approved by the Engineer.

10.3 QUALITY CONTROL TESTS

10.3.1 Field / lab tests shall be carried out to check, control and finally assure the quality of work at every level. Material and finished item shall be subjected to test to achieve the desired quality of work. Where ever necessary required number of test shall be carried out in outside laboratory approved by the Engineer. The mandatory test shall be carried out as per the provision of CPWD Specifications 2009 Volume-I & II and relevant IS codes or any other applicable codes.

10.3.2 The lot size, number of required tests and frequency of testing shall be as per CPWD Specifications. The number of tests indicated is minimum required test to be performed. However, actual numbers of test may be more depending upon the actual quantities executed and measured at site. ***Nothing extra shall be admissible on this account.*** Decision of the Engineer shall be final and binding in this respect.

10.3.3 The ***independent test equal to 10% tests*** or as desired by Engineer/Employer of the total number of tests performed in field laboratory shall be carried out in out-side laboratories mentioned in para 10.2 above.

10.3.4 Any other test in the opinion of the Engineer required for establishing quality of material or execution of work shall also got carried out by the contractor. Decision of Engineer shall be final and binding in this respect.

10.3.5 Ultrasonic Pulse Velocity Method of Test for RCC

- i) The underlying principle of assessing the quality of concrete is that comparatively higher velocities are obtained when the quality of concrete in terms of density, homogeneity and uniformly is good. The consistency of the concrete as regards its general quality gets established. In case of poorer quality lower velocities are obtained. If there are cracks, voids or flaws inside the concrete which come in the way of transmission of pulse, lower velocities are obtained.
- ii) The quality of concrete in terms of uniformity, incidence or absence of internal flaws, cracks and segregation etc. indicative of the level of workmanship employed, can thus be assessed using the guidance given in table below, which have been evolved for characterizing the quality concrete in structure in term of the ultrasonic pulse velocity.

iii) **Velocity criterion for Concrete Quality Grading.**

Sl. No.	Pulse velocity by Cross Probing (km/sec)	Concrete Quality Grading
1	Above 4.5	Excellent
2	4.5 to 3.5	Good
3	3.5 to 3.0	Medium
4	Below 3.0	Doubtful

Note: In Case of “doubtful” quality it may be necessary to carry further tests.

- iv) Pulse velocity method of test of concrete is to be conducted for works as a routine test. The acceptance criteria as per the above table will be applicable which is as per IS 13311 (part-1): 1992. From the above “Good” and “Excellent” grading are acceptable and below these grading the concrete will not be acceptable.
- v) 5% of the total number of RCC members in each category i.e. beam, column, slab and footing may be tested by UPV test method for establishing quality of concrete. It is suggested that test be conducted on RCC beam near joint with column, on RCC column near joint with beam, on RCC footings and rafts. On RCC rafts a suitable grid can be worked out for determining number of tests. In addition, doubtful areas such as honeycombed locations, locations, where continuous seepage is observed, construction joints and visible loose pockets will also be tested.
- vi) The test results are to be examined in view of the above acceptance criteria “Good” and “Excellent” and wherever concrete is found with less than required quality as per acceptance criteria, repairs to concrete will be made. Honeycombed areas and loose pockets will be repaired by grouting using Portland Cement Mortar/Polymer Modified Cement Mortar /Epoxy Mortar ,etc. after chipping loose concrete in appropriate manner. In areas where concrete is found below acceptance criteria and defects are not apparently visible on surface, injecting approved grout in appropriate proportion using epoxy grout /acrylic Polymer modified cements slurry made with shrinkage compensating cement / plain cement slurry etc. will be resorted to for repairs. (*refer relevant chapters from CPWD Hand Book on Repairs and Rehabilitation of RCC Buildings*). Repair to concrete will be done till satisfactory results are obtained as per the acceptance criteria by retesting of the repaired area. If satisfactory results are not obtained dismantling and relaying of concrete will be done.

10.3.6 The contractor shall supply free of charge the materials required for testing including its transportation cost to testing laboratories. ***The cost of tests carried out shall be borne by the contractor.***

10.3.7 The contractor shall ensure quality construction in a planned and time bound manner. Any sub-standard material / work beyond set out tolerance limit shall be summarily rejected by the Engineer

& contractor shall be bound to replace / remove such sub-standard / defective work immediately. If any material, even though approved by Engineer is found defective or not conforming to specifications shall be replaced / removed by the contractor at his own risk & cost.

- 10.3.8 The Contractor shall submit Manufacturer Test Certificate & carry out all required testing of material as per specifications & directions of Engineer in Charge. Testing of material shall be carried out at a laboratory approved by Engineer in Charge & testing charges shall be borne by the contractor.

Engineer in charge may also test portion of the finished works already done in order to prove soundness and efficiency of the material/work. The test results thus obtained shall be final and binding to the contractor. Cost of transportation of material for testing & testing charges shall be borne by Contractor.

If after any such tests, the material/work/portion of the works are found defective or unsound, the contractor shall remove/dismantle the rejected material/work and reconstruct the same at his own cost as per the directions of Engineer whose decision would be binding.

10.4 SHUTTERING SCHEDULE, MACHINERY AND OTHER TOOL & PLANTS

- 10.4.1 Minimum requirement of shuttering shall be drawn as per construction program. A proper shuttering schedule showing quantity of shuttering to be brought at site either in one lot or at different stages of work shall be submitted prior to start of work for the approval of Engineer.

- 10.4.2 The types of machinery and other tool & plants generally to be deployed at site by the contractor has been mentioned below:

Sl. No.	Equipment
1.	Mobile crane of adequate height
2.	Excavator cum loader (<i>JCB 3D model or equivalent</i>).
3.	DG set of minimum capacity 62.5 KVA.
4.	Concrete batching plant fully computerized with 30 Cum capacity.
5.	Transit mixer.
6.	Concrete pump (<i>minimum capacity 30 cum/hr. & head 90m</i>).
7.	Needle Vibrators.
8.	Plate Vibrators.
9.	Dumper.
10.	Reinforcement bending machine.
11.	Reinforcement cutting machine.
12.	Power driven earth rammer (<i>Soil compactor</i>).
13.	Total station with distance meter.
14.	Tractor with trolley.

15.	Water tanker (<i>minimum capacity 5000 ltrs</i>).
16.	Welding machine 400 Ampere
17.	Screener for coarse sand and fine sand
18.	Centrifugal mono block water pump suitable for minimum 30 m head.
19.	Any other machinery required for completion of the work as per decision of Engineer.

Entire machinery and T&P may not be required at the start of work, therefore, a proper time schedule by which each machinery and T&P is to be brought at site shall be submitted prior to start of work for the approval of Engineer.

10.5 REMOVAL OF REJECTED/SUB-STANDARD MATERIALS

The following procedure shall be followed for the removal of rejected/sub-standard materials from the site of work:

- a Whenever any material brought by the contractor to the site of work is rejected, entry thereof should invariably be made in the Site Order Book under the signature of the Engineer, giving the approximate quantity of such materials.
- b As soon as the material is removed, a certificate to that effect shall be recorded by the Engineer against the original entry, giving the date of removal and mode of removal, i.e., whether by truck, carts, or by manual labour. If the removal is by truck, the registration number of the truck should be recorded.
- c When it is not possible for the Engineer to be present at the site of work at the time of actual removal of the rejected/sub-standard materials from the site, the required certificate should be recorded by the person appointed by Engineer, and the Engineer should countersign the certificate recorded by the person so appointed.

10.6 Custody & Reporting of Records

- 10.6.1 All the records shall be maintained jointly by laboratory in-charge and the authorized representative of Engineer. Records shall be maintained in the shape of registers and shall be kept in the safe custody of Engineer of work. Status of mandatory test shall be reported at the time of presentation of each running account bill or monthly progress reports.

Maintenance of register of test:

- i. All samples of materials including cement concrete cubes shall be taken jointly with contractor by Engineer's representative. All the necessary assistance shall be provided by the contractor. Cost of sample materials is to be borne by the contractor and he shall be responsible for safe custody of samples to be tested at site.
- ii. All the tests in field lab setup at construction site shall be carried out by the engineering staff deployed by the contractor in presence of Engineer's representative where possible.

- iii. All the entries in the register will be made by the designated engineering staff of the contractor and same should be regularly reviewed by Engineer.

10.6.2 Maintenance of Site Records & Quality Records:

- a. The Contractor shall maintain records, plans and charts (*CGM/PERT*) showing the date and progress of all main operation and activities. The Engineer shall have access to the information at all times. All tests will be conducted in presence of Engineer's representative. Records of those shall be handed over to the Engineer's representative/officer carrying out tests.
- b. In addition to Quality Record the following registers shall be maintained at site by the Engineer and the Contractor shall furnish all the required details from time to time.
- c. The Contractor shall promptly sign the order given therein by the Engineer or his representative or his superior officers and comply with them. The compliance shall be reported by the contractor to the Engineer in reasonable time to enable Engineer/his representative to check the same.
- d. The register will be maintained to show the daily strength of labour in different categories employed by the contractor. The same shall be signed daily by representatives of contractor and Engineer for their correctness.
- e. The particulars of machineries with contractor in working condition and working at site to be recorded jointly on each day.
- f. All events are required to be chronologically logged in the register.
- g. All test results of materials used in works shall be maintained.
- h. All the drawings fit for construction issued to contractor, date wise will be maintained with latest revision.
- i. The register of Engineer & other staff at work site shall be maintained on daily basis.
- j. Other Register for cement, Steel or any other important items as directed by Engineer shall be maintained at site by Contractor.

10.6.3 Records to be produced by the Contractor for inspection

- a. The contractor shall whenever required by the Engineer or his authorized representatives produce or cause to be produced for examination any quotation, invoice cost or any copy of or extract from any accounts, books, vouchers, receipts, letter, memorandum or any copy of or extract from any such documents and also furnish information as may be required relating to the execution of this contract or relevant for verifying or ascertaining the materials supplied by the Contractor are in accordance with the specifications laid down in the contract etc. The Engineer decision on the question or relevancy of any document or information or returns will be final and binding on the contractor.

- b. The work may be inspected by the DST/Engineer/Statutory Authority etc. and Vigilance and Technical Department of DST/Engineer/CTE of CVC etc. and the contractor is bound by their decisions in respect of quality, quantity and amount payable/recoverable under this contract.

10.7 LIST OF ACCEPTABLE MAKES FOR CIVIL WORKS

- 10.7.1 The contractor shall obtain prior approval from the Engineer before placing order for any specific material or engaging any of the specialized agencies. The contractor shall make a detailed submittal with catalogues and highlighted proposed specifications, as well as full details of the works executed by the specialized agency, as specified.
- 10.7.2 Wherever applicable, the Engineer may approve any material equivalent to that specified in the tender subject to proof being offered by the contractor for equivalence to his satisfaction.
- 10.7.3 Unless otherwise specified, the brand / make of the material as specified in the item nomenclature of the schedule or SCC or as approved by Engineer/Employer shall be used in the work.
- 10.7.4 In case of non-availability of the brand specified in the contract, the contractor shall be allowed to use alternate equivalent brand of the material subject to approval of the same from Engineer/Employer.

MATERIALS:

BRAND/MAKE

1	AAC Block	Aerocon, Siporex, Ultratech, Ecolite
2	AAC Block Adhesive	Ferrous crete (<i>Ferro-1188</i>), ARDEX ENDURA (<i>White Star</i>), Ultratech (<i>Fixed-Block</i>)
3	Acrylic Distemper, Emulsion, Synthetic Enamel Paint and Primer.	Asian Paints, ICI Dulux, Berger, Nerolac
4	Epoxy Adhesive	FOSROC, Aquomix, Choksey, BAL-ENDURA
5	Aluminium Composite Panel	Alpolic, Aluco Bond, Reynobond, Euro bond, Alstrong
6	Aluminium Extrusions	Hindalco, Indalco, Jindal
7	Aluminum Sections	Jindal, Hindalco, Indalco
8	Annealed Float Glass	Saint Gobain, Modi Guard, Asahi
9	Bitumen	Indian Oil, Hindustan Petroleum, Bharat Petroleum
10	Calcium Silicate Board / Tiles	Aerolite, Hilux, Starpan
11	CC Pavers	Nitco, Bharat Regency, Hindustan, Ultra, KJS Concrete, Duracrete, Dalal Tiles
12	Centrifugally Cast-Iron Pipe & Fittings	NECO, SKF, BIC, RIF, KAPILANSH, HIF
13	Ceramic Tiles	Kajaria, Nitco, Orient Bell, Johnson
14	Chequered / Tactile Tiles	Dura, Unistone, Eurocon, Modern

15	CI Manhole Cover	BIC, SKF, NICO, Hepco, Kapilansh, RIF
16	CI Double flanged non-return valves	Kirloskar, Sant, Kartar
17	CP fittings	Jaquar, Parryware, Grohe, Kohler, Hindware, Roca
18	CPVC Pipes & Fittings (<i>For Hot & Cold</i>)	Astral Flowguard, Ashirvad, Prince, Supreme, Finolex, VECTUS
19	Curtain Carrier / Drapery Rod	Marvel, Vista levlor, Johnson.
20	Dash fastener, Expansion Bolt	Hilti, Bosch Fischer
21	Hydraulic Door closer, Floor springs	Dorma, Hardwyn, Hettich, Hafele
22	Ductile Iron Pipe (<i>Water Supply</i>)	Electro steel, Kesso, KDUPL, Electro Spun
23	EPDM Gasket	Hanu, Anand, Lescuyer
24	GRC Tile	Unistone, Eurocon, Dazzle
25	Epoxy Grouting Compound	Pidilite, Ferrous Crete (<i>Ferro-102</i>), MYK, LATICRETE
26	Epoxy Primer & Paints	Berger, Pidilite, CICO, BASF, SIKA
27	Fire Check door	Navair, Godrej, Shakti
28	Float Glass Mirror	Modi Float, Saint Gobain, Asahi
29	Flush Doors (<i>ISI Mark only</i>)	Century, Kitlam, Archid, A-1 Teak Products – Indore, Greenply
30	Friction Stay	Earl-Bihari, Ebco, Hettich
31	Galvanized/Stainless Steel Anchor Fasteners	Shakti, Arrow, Hilti, Fischer
32	Grass Pavers	Unistone, Ultra, Hindustan, KK, KJS Concrete
33	GI Pipe & fittings	Tata, Zenith, Jindal, Prakash Surya, Swastik
34	GI Sheet	Sail, TATA or equivalent
35	Gun Metal Gate Valve	Zoloto, Leader, AUDCO, SANT
36	Glass Mosaic Tile	Bisazza, Italia, Palladio, Mridul
37	Gypsum Board (<i>False Ceiling</i>)	Boral Gypsum, India Gypsum, St. Gobain
38	Hardener	Hardcrete of Snowcem India, Pidilite, CICO.
39	HDPE Pipes	VECTUS, Emco, Polyfins, Pioneer, Plyfab
40	Jet Assembly for EWC/Health Faucet	Parryware, Jaquar, Grohe, Kohler
41	Kitchen loft tank	Sintex, Tirupati Structurals Ltd, KMS Plast world P.Ltd. Planet Plastics, Sri Kamakshi Traders, Sreyah Novel InC.
42	Laminate and Veneers	Merino, Greenlam, Formica, Kitlam, Durian, Ventura
43	Locks / Latch	Godrej, Harrision, Plaza, Dorma, Yale
44	Marine Plywood / BWP Ply	Duro, Century, Greenlam

45	Melamine Polish	Asian Paints, Pidilite, ICI Dulux, Burger
46	Metal False Ceiling	Armstrong, Trac, Durlum, Lafarge, Anutone
47	Mineral Fiber Ceiling	Armstrong, Daiken, Hunter Douglas, Anutone
48	M.S. Pipe (<i>Railing</i>)	Jindal, Tata, RINL, Prakash Surya
49	Multicoat Synthetic Plaster/ Textured Exterior wall paint	Spectrum, Heritage, Ultratech
50	Paver Blocks	Nitco, Kajaria, Johnson, Super
51	Plywood,	Greenply, Century, Duro
52	Polycarbonate Sheet	Danpalon, Bayer, Skyarch, Macrolux
53	Polysulphide / Silicon Sealent	Pidilite, Fosroc, Tuffseal, Chouksey Chemicals
54	POP (<i>Plaster of paris</i>)	JK, Laxmi, Sriram Nirman, Sakarni
55	PPR Pipes	SFMC, SAFE, Poineer Industries
56	Precast CC interlocking Tiles	Hindustan, Paver India, KK
57	Precoated Profile Sheet	Tata, Bhushan or equivalent as approved by E-I-C
58	Pre-laminated Particle Board	Ecoboard, Action-Tesa, Duro, Century Ply.
59	PTMT Fittings	Prayag, Polytuf, Pearl, Millennium
60	PVC Cistern	Steelbird, Jindal, Seabird, Prayag
61	PVC Connection Pipe	Supreme, Prince, Finolex
62	PVC Rain Water Pipe & Fitting	Finolax, Kisan, Kasta, Supreme, Astral, Prince
63	Ready Mix Concrete (<i>RMC</i>)	Lafarge, Alchon, ACC, L&T, Grasim, Ultratech
64	PVC Shutter	Rajshri, Sintex Polygreen
65	PVC Water storage Tank (<i>Only ISI</i>)	VECTUS, Water well, Plasto, Polycon, Sintex
66	Sluice Valve	Kirloskar, Venus, Kalpana, SANT, KARTAR
67	Solid PVC frames and shutters	Polygreen, Rajshri, Plastogreen
68	Stainless Steel	Jindal, Salem or equivalent
69	Stainless steel Sink with or without Draining board.	Nirali, Hindware, Frankee, Neelkanth, Jaquar
70	Stainless steel Door/Window fittings & Fixtures	Dorma, Ozone, D. Line, Hettich, Kich
71	Structural steel section	TATA, SAIL, RINL, Jindal
72	Super plasticizer / admixture	Sika, Fosroc, Chouksey Chemicals, BASF, BUILDTECH
73	Tensile Fabric	Bluestone, Encon, Structure Flex
74	Tile/Granite Adhesive	Ferrous Crete, Ardex Endura, PIDILITE WEABR (<i>Saint-Gobain</i>) Sika, MYK Laticrete
75	Towel Ring/Towel Rod/Towel Rack	Jaquar, Grohe, Kohler

76	UPVC Pipes & Fittings	Astral Flowguard, Ashirvad, Prince, Supreme, Finolex, VECTUS
77	Vitreous China Sanitary ware, Fittings & Fixtures	Hindware, Parryware, Jaquar, Somany, Roca, Cera
78	Vitrified Tile	Johnson -Marbonite, Kajaria, Orient Bell, NITCO
79	Wall Putty	JK, BIRLA, Ferrouscrete
80	Waste Pipe	Kamal, Viking, Jaquar
81	Water Proofing Compound (Liquid)	Pidilite, Cico, Impermo
82	White Cement	JK White, Birla White, Grasim
83	Gypsum Plaster	Ferrous crete, Gyproc saint Gobain, ultratech
84	Floor Spring	Hardwyn, Godrej, Dorma
85	Ready Mix Plaster	Ferrouscrete, Ultratech or equivalent as approved.
86	Industrial Flooring	Flowcrete, BASF or equivalent
87	EOT Crane	Venus Engineering, Ganesh Engineering & Equivalent
88	Aluminium Rolling Shutter	Rama Rolling, Vijay Rolling
89	Electronic Lock	Samsung, Godrej, Kwikset or Equivalent
90	Automatic Sliding Door Fittings	Ozone, Hettich, Dorma, Hafele

PART – II

TECHNICAL SPECIFICATIONS

GENERAL TECHNICAL SPECIFICATION

All works shall be executed as per latest CPWD's specification as amended up to date, BIS Codes amended up to date and other relevant codes as per directions of Engineer in charge.

In terms of work for which CPWD specifications are not available, execution of work shall be carried out in accordance with standard practices and/or Manufacturer's catalogue and as per directions of Engineer in Charge. Before execution of such items, Contractor has to submit his methodology of execution & Manufacturer's catalogues for approval to Engineer in Charge. Decision of Engineer in Charge in this regard shall be final & binding on the contractor.

PART-III

CHAPTER-I

MILESTONES AND TIME SCHEDULE

PART-III

CHAPTER - I

MILESTONES AND TIME SCHEDULE

4.1.1 Time Schedule:

4.1.1.1 Time of start and completion:

The time allowed for execution of the works is **18 (*Eighteen 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.

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.

4.1.1.2 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 18 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 18 months as overall completion period.

4.1.2 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 18 (<i>Eighteen</i>) months' time
(a) Physical commencement of work	D + 15 days
(b) Mobilization of equipment	Upto D + 50 days
(c) Full mobilization of plant, machinery, men and material	Upto D + 60 days
(d) Construction of foundation	Upto D + 120 days
(e) Construction of Frame Structure Building and allied facilities	Upto D + 365 days
(f) Construction of balance works plus finishing	Upto D + 540 days

Note: “D” is the date of issue of Letter of Acceptance by DFCCIL to the contractor.

Signature of Tenderer

PART-III
CHAPTER-II
TENDER FORMS

TENDER FORMS

FORM No.	SUBJECT
Form No. 1A	Offer Letter
Form No. 1B	Structure & Organisation
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	Summary of Prices
Form No. 4	Schedule of Prices and Total Prices
Form No. 5	Contract Agreement
Form No. 6	Format of Bank Guarantee for performance security
Form No. 7	Indemnity Bond
Form No. 8	ECS / NEFT / RTGS Mandate form
Form No. 9	Draft MOU for Joint Venture Participation
Form No.10	Draft Format of JV Agreement
Form No.11	Pro-forma Letter of Participation from each partner of JV
Form No.12	Format for Power of Attorney for authorized signatory of JV Partners
Form No.13	Format for Power of Attorney to lead partner of JV
Form No. 14	Proforma for Time Extension
Form No. 15	Certificate of Fitness
Form No. 16	Proforma of 7 days Notice
Form No. 17	Proforma of 48 Hours Notice

Signature of Tenderer

Form No. 18	Proforma of Termination Notice
Form No. 19	Format of Bank Guarantee for Mobilisation Advance
Form No. 20	Pre-Contract Integrity Pact
Form No. 21	Format of Bank Guarantee for Security Deposit
Form No. 22	Format for Power of Attorney for Authorized representative
Form No. 23	No deviation Certificate
Form No.24	GUARANTEE BOND for water proofing works/Anti Termite Treatment Works

OFFER LETTER

Tender No: CGM/DFCCIL/NOIDA UNIT/CONSTRUCTION OF HEAVY HAUL RESEARCH INSTITUTE (HHRI)/2019/03

Name of work: Construction of Heavy Haul Research Institute (HHRI) comprising of Administrative & Hostel Block and General Lab including related allied facilities at Sector-145, Noida.

To,

The Chief General Manager/Noida,
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 and within Specified Time.
- (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) A sum of Rs. 50,00,000/- in the form of Demand Draft / Banker's Cheque /FDR (from any Nationalized or Indian Scheduled Commercial Bank made in favor of DFCCIL payable at Delhi/Noida), has been deposited in original in the office of CGM/Noida on or before schedule date & time of submission of bid. The Scanned copy of the submitted EMD instrument has also been uploaded on E-tender portal.
- (e) We have not been blacklisted/banned in accordance with para.1.3.13 (ii)(vi)(a) of Preamble and General Instructions to tenderers.
- (f) 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) (vi) (b) of Preamble and General Instructions to tenderers.
- (g) If our bid is accepted, we commit to obtain a Performance Guarantee in accordance with the Bidding Documents;
- (h) If our bid is accepted, we commit to deploy key equipment and key personnel

Signature of Tenderer

consistent with the requirements of the work.

- (i) We understand that this bid, together with your written acceptance thereof 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.
- (j) 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 invite 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.
- (k) I/We undertake and confirm that eligible similar work(s) has/have not been got executed through another contractor on back to back basis. Further that, if such a violation comes to the notice of Department, then I/We shall be debarred for tendering in DFCCIL in future forever. Also, if such a violation comes to the notice of Department before date of start of work, the Engineer-in-Charge shall be free to forfeit the entire amount of Earnest Money Deposit/Performance Guarantee.
- (l) I/We hereby declare that I/We shall treat the tender documents drawings and other records connected with the work as secret/confidential documents and shall not communicate information/derived there from to any person other than a person to whom I/We am/are authorized to communicate the same or use the information in any manner prejudicial to the safety of the State.
- (m) We understand that you are not bound to accept the lowest bid or any other bid that you may receive.

NameIn the
capacity of
.....Signed.....
.....Duly authorized to sign the Bid for and on behalf
of..... Date.....

STRUCTURE & ORGANISATION

- 1 Name & address of the bidder
- 2 Telephone no./Telex no./Fax no.
- 3 Legal status of the bidder (attach copies of original document defining the legal status):
 - a) An Individual
 - b) A proprietary firm
 - c) A firm in partnership
 - d) A limited company or Corporation
- 4 Particulars of registration with various Government Bodies (attach attested photocopy)

Organization /Place of registration

Registration No.

- 1.
- 2.
- 3.

- 5 Names and titles of Directors & Officers with designation to be concerned with this work.
- 6 Designation of individuals authorized to act for the organization
- 7 Has the bidder, or any constituent partner in case of partnership firm, Limited Company /Joint Venture ever been convicted by the court of law? If so, give details.
- 8 In which field of Engineering construction the tenderer has specialization and interest?
- 9 Any other information considered necessary but not included above.

Signature of bidder(s)

Signature of Tenderer

TENDERER'S CREDENTIALS

	Description
1.	For technical experience/competence, give details of similar completed works during the last three financial years (<i>i.e current Financial year and three previous Financial Years</i>) 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>i.e current Financial year and three previous financial years</i>) 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 Para 1.3.13 (i) of*****Preamble and General Instructions to Tenderers)***

Role in Contract	Prime Contractor <input type="checkbox"/>	Member in JV <input type="checkbox"/>
If member in a JV, specify participation in total Contract amount	[insert a percentage amount]	Total contract amount in Rs.
Employer's Name: Address:		

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

Signature of Tenderer

FINANCIAL ELIGIBILITY CRITERIA DETAILS

Each Bidder or each member of JV must fill in this form separately. Name of Bidder/JV Partner

Details of contractual payments received during the last three financial years and current financial year

Contractual payments received		
Year	Value of gross contractual payment received in Rs.	Value of contractual payment received from Govt. Organization/PSU/Public Ltd. Company
Current Year (2019-2020)		
2018-2019		
2017 – 2018		
2016 – 2017		
Total Contractual Payment		

Note: 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(ii)(v) of Preamble and General Instructions to Tenderers.

The bidder shall attach necessary documents in support of the above.

Signature of the

Tenderer with Seal

Signature of Tenderer

APPLICANT'S PARTY INFORMATION FORM

Applicant name:

[insert full name]

Applicant's Party name:

[insert full name of Applicant's Party]

Applicant's Party country of registration:

[indicate country of registration]

Applicant Party's year of constitution:

[indicate year of constitution]

Applicant Party's legal address in country of constitution:

[insert street/ number/ town or city/ country]

Applicant Party's authorized representative information

Name: *[insert full name]*

Address: *[insert street/ number/ town or city/ country]*

Telephone/Fax numbers: *[insert telephone/fax numbers, including country and city codes]*

E-mail address: *[indicate e-mail address]*

1. Attached are copies of original documents of

- ☐ Articles of Incorporation (*or equivalent documents of constitution or association*), and/or registration documents of the legal entity named above.
- ☐ 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

SUMMARY OF PRICES

Name of work: - Construction of Heavy Haul Research Institute (HHRI) comprising of Administrative & Hostel Block and General Lab including related allied facilities at Sector-145, Noida.

S. No	DESCRIPTION OF SCHEDULES	COST (in Rs.)
1	Execution of all works as per Schedule-'A' (items as per CPWD DSR 2016)	21,42,95,719
2	Execution of all works as per Schedule-'B' (non-scheduled items other than CPWD DSR 2016)	8,90,14,438
3	Execution of all works as per Schedule-'C' (item related to Steel reinforcement)	5,28,97,883
	GRAND TOTAL	35,62,08,040

Notes:

- 1) This proforma is just for information and perusal. However, the rates are to be filled in Online mode in Financial Bid Packet-B.
- 2) **Schedule-'A':** The cost of items given above are as per CPWD DSR 2016.
- 3) **Schedule-'B':** The cost of items given above are non-scheduled items (*other than CPWD DSR 2016*) as per current market rate analysis (*excluding GST, as GST would be paid extra by DFCCIL*).
- 4) **Schedule-'C':** The cost of item given above is related to Steel Reinforcement, based on current market rate and derived as per CPWD methodology (*excluding GST, as GST would be paid extra by DFCCIL*).
- 5) The rates quoted by the tenderer shall be inclusive of all taxes and levies but **excluding GST**. The ***GST as legally leviable and payable by the Bidder*** under the provisions of applicable law/act ***shall be paid extra by DFCCIL***. Therefore, the **Bidders should quote their rates after considering the Input Tax Credits on their input materials and services**. Hence, ***Bidders should ensure that, full benefit of Input Tax Credit (ITC) likely to be availed by them is duly considered while quoting their rates.***
- 6) ***Price variation will be applicable*** as per the clause mentioned in GCC.
- 7) The bidder has to be registered under CGST/IGST/UTGST/SGST Act and should submit GSTIN along with other details required under CGST/IGST/UTGST/SGST Act to the Employer, without which, no payment shall be released to the contractor.

 Signature of Tenderer

(Schedule of Prices and Total Prices)

Signature of Tenderer

SCHEDULED – “A” Schedule of Prices & Total Prices						
Name of Work: Construction of Heavy Haul Research Institute (HHRI) comprising of Admin & Hostel Block and General Lab including related allied facilities at Sector – 145, Noida						
S. No.	Item No. of D.S.R 2016	Description of Items	QTY	UNIT	RATE (Rs.)	AMOUNT (Rs.)
		SCHEDULED ITEMS - 1 (CIVIL WORK)				
1.0	1.0	EARTH WORK:				
1.1	D.S.R. 2.6	Earth work in excavation by mechanical means (Hydraulic excavator)/manual means over areas (exceeding 30 cm in depth, 1.5 m in width as well as 10 sqm on plan) including getting out and disposal of excavated earth lead upto 50 m and lift upto 1.5 m, as directed by Engineer-in-charge.				
	a	All kinds of soil	11281.34	CUM	125.95	14,20,885
1.2	D.S.R. 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.	1500.00	CUM	166.40	2,49,600
1.3	D.S.R. 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, density achieve at least 95% of max dry density as per IS 2720 Part VII, lead up to 50m and lift upto 1.5 m depth.	11409.34	Cum.	125.75	14,34,724
1.4	2.27	Supplying and filling in plinth with sand under floors, including watering, ramming, consolidating and dressing complete.	608.03	Cum.	917.75	5,58,017
1.5	2.34	Supplying chemical emulsion in sealed containers including delivery as specified.				

	2.34.1	Chlorpyrifos/ Lindane emulsifiable concentrate of 20%	80.56	Ltr	185.95	14,979
1.6	2.35.2	Diluting and injecting chemical emulsion for POST-CONSTRUCTION anti-termite treatment (excluding the cost of chemical emulsion):				
		Along the external wall below concrete or masonry apron using chemical emulsion @ 2.25 litres per linear metre including drilling and plugging holes etc.:				
	2.35.2.1	With Chlorpyrifos/ Lindane E.C. 20% with 1% concentration	380.00	Rmt	24.30	9,234
1.7	2.35.3	Treatment of soil under existing floors using chemical emulsion @ one litre per hole, 300 mm apart including drilling 12 mm diameter holes and plugging with cement mortar 1 :2 (1 cement: 2 Coarse sand) to match the existing floor:				
	2.35.3.1	With Chlorpyrifos/Lindane E.C. 20% with 1% concentration	3580.27	Sqm	131.90	4,72,238
1.8	D.S.R. 2.26	Extra for every additional lift of 1.5 m or part thereof in excavation /banking excavated or stacked materials.				
	2.26.1	All kinds of soil.	5439.41	Cum	51.75	2,81,489
1.9	D.S.R. 2.18	Close timbering over areas including strutting, shoring and packing cavities (wherever required) etc. complete. (Measurements to be taken of the face area timbered):				
	2.18.3	Depth exceeding 3 m but not exceeding 4.5 m.	880.04	Sqm	112.55	99,049
1.10	D.S.R. 2.31	Clearing jungle including uprooting of rank vegetation, grass, brush wood, trees and saplings of girth up to 30 cm measured at a height of 1 m above ground level and removal of rubbish up to a distance of 50 m outside the periphery of the area cleared.	20230.00	Sqm	7.20	1,45,656
		TOTAL OF EARTH WORKS				46,85,871
2.0	2.0	CONCRETE WORK				

2.1	D.S.R. 4.1	Providing and laying in position cement concrete of specified grade excluding the cost of centering and shuttering - All work up to plinth level:				
(i)	D.S.R. 4.1.8	1:4:8 (1 Cement: 4 coarse sand: 8 graded stone aggregate 40 mm nominal size).	1043.03	M3	4,478.15	46,70,856
2.2	DSR 16.78	Construction of granular sub-base by providing close graded Material conforming to specifications, mixing in a mechanical mix plant at OMC, carriage of mixed material by tippers to work site, for all leads & lifts, spreading in uniform layers of specified thickness with motor grader on prepared surface and compacting with vibratory power roller to achieve the desired density, complete as per specifications and directions of Engineer-in-Charge.				
(i)	DSR 16.78.2	With material conforming to Grade-II (size range 53 mm to 0.075 mm) having CBR Value-25	3611.50	Cum	2,080.15	75,12,462
2.3	DSR 16.79	Providing, laying, spreading and compacting graded stone aggregate (size range 53 mm to 0.075 mm) to wet mix macadam (WMM) specification including premixing the material with water at OMC in for all leads & lifts, laying in uniform layers with mechanical paverfinisher in sub- base / base course on well prepared surface and compacting with vibratory roller of 8 to 10 tonne capacity to achieve the desired density, complete as per specifications and directions of Engineer-in-Charge.	1791.90	Cum	2,132.25	38,20,779
2.4	D.S.R. 4.1.4	Encasing RCC Hume Pipe alaround including bed with 100mm thk concrete bed 1:2:4 (1 cement: 2 coarse sand: 4 Graded stone aggregate of 20mm nominal size) including necessary form work complete as per drawing and as directed by Engineer in charge.	20.00	Cum	5,390.45	1,07,809
		TOTAL OF CONCRETE WORK				1,61,11,905
3.0	3.0	R.C.C. / SHUTTERING WORK				

3.1	D.S.R. 5.33	Providing and laying in position machine batched and machine mixed design mix M-25 grade cement concrete for reinforced cement concrete work, using cement content as per approved design mix, including pumping of concrete to site of laying but excluding the cost of centering, shuttering, finishing and reinforcement, including admixtures in recommended proportions as per IS: 9103 to accelerate, retard setting of concrete, improve workability without impairing strength and durability as per direction of Engineer-in-charge.“(Note :- Cement content considered in this item is @ 330 kg/cum.“Excess/ less cement used as per design mix is payable / recoverable separately).				
i)	D.S.R. 5.33.1	All works up to Plinth level.	3628.28	Cum	6,446.45	2,33,89,504
ii)	D.S.R. 5.33.2	All works above plinth & up to floor V level.	896.35	Cum	7,250.05	64,98,555
3.2	D.S.R. 5.34	Extra for providing richer mixes at all floor levels Note: - Excess/less cement over the specified cement content used is payable /recoverable separately.				
(i)	DSR 5.34.1	Providing M-30 grade concrete instead of M-25 grade BMC/ RMC. (Note: - Cement content considered in M-30 is @ 340 kg/cum)	7600.62	cum	69.50	5,28,243
(ii)	DSR 5.34.2	Providing M-35 grade concrete instead of M-25 grade BMC/ RMC. (Note: Cement content considered in M-35 is @ 350 kg/cum)	349.18	cum	138.95	48,519
(iii)	DSR 5.34.3	Providing M-40 grade concrete instead of M-25 grade BMC/ RMC. (Note: Cement content considered in M-40 is @ 360 kg/cum)	349.18	cum	208.45	72,787
3.3	DSR 5.35	Add for using extra cement in the items of design mix over and above the specified cement content therein.	996.02	Quintal	672.75	6,70,071

3.4	D.S.R. 5.37	Providing and laying in position ready mixed M-25 grade concrete for reinforced cement concrete work, using cement content as per approved design mix, manufactured in fully automatic batching plant and transported to site of work in transit mixer for all leads having continuous agitated mixer, manufactured as per mix design of specified grade for reinforced cement concrete work including pumping of R.M.C. from transit mixer to site of laying, excluding the cost of centering, shuttering finishing and reinforcement including cost of admixtures in recommended proportions as per IS : 9103 to accelerate/ retard setting of concrete, improve workability without impairing strength and durability as per direction of the Engineer - in - charge.(Note :- Cement content considered in this item is @ 330 kg/cum. Excess/ less cement used as per design mix is payable/ recoverable separately).				
		(Note: - Cement content considered in this item is @ 330 kg/cum. Excess/less cement used as per design mix is payable/recoverable separately).				
3.4.1	D.S.R. 5.37.1	All works upto plinth level.	11.00	Cum	6,713.60	73,850
3.4.2	D.S.R. 5.37.2	All works above plinth level upto floor V level.	3308.29	Cum	7,517.20	2,48,69,107
3.5	D.S.R. 5.38	Extra for R.C.C./ B.M.C/ R.M.C. work above floor V level for each four floors or part thereof	496.24	cum	232.30	1,15,277
3.6	D.S.R. 5.9	Centring and shuttering including strutting, propping etc. and removal of form for:				
3.6.1	D.S.R. 5.9.1	Foundations, footings base of columns etc. for mass concrete.	2191.17	M2	193.95	4,24,978
3.6.2	D.S.R. 5.9.2	Walls (any thickness) including attached pilasters, buttresses, plinth and string courses etc.	4598.99	M2	378.60	17,41,177
3.6.3	DSR 5.9.3	Suspended floors, roofs, Staircases, balconies & access platform.	11027.52	M2	422.30	46,56,923
3.6.4	D.S.R. 5.9.5	Lintels, beams, plinth beams, girders, bressumers & cantilevers.	9584.78	M2	342.90	32,86,620
3.6.5	D.S.R. 5.9.6	Column, pillars, piers, walls, abutments posts & struts	8642.78	M2	467.85	40,43,548

3.6.6	D.S.R. 5.9.9	Arches, domes, vaults upto 6m span	11.00	M2	1,136.85	12,505
3.6.7	D.S.R. 5.9.16	Edges of slabs and breaks in floors and walls				
	D.S.R. 5.9.16.1	Under 20 cm wide	2750	Mtr	122.20	3,36,050
3.7	D.S.R. 5.11	Extra for additional height in centering, shuttering where ever required with adequate bracing, propping etc. including cost of de-shuttering and decentering at all levels, over a height of 3.5 m, for every additional height of 1 metre or part thereof (Plan area to be measured)				
	5.11.1	Suspended floors, roofs, landing, beams and balconies (Plan area to be measured).	9955.46	Sqm.	171.50	17,07,362
3.8	D.S.R. 5.29	Providing and fixing sheet covering over expansion joints with iron screws as per design.				
	5.29.2	Aluminium fluted strips 3.15 mm thick				
	5.29.2.1	150 mm wide	25	Mtr.	336.65	8,416
	5.29.2.2	200 mm wide	25	Mtr.	469.40	11,735
		TOTAL OF R.C.C. / SHUTTERING WORK				7,24,95,277
4.0	4.0	BRICK WORK				
4.1	D.S.R. 6.1	Brick work with common burnt clay F.P.S. (non modular) bricks of class designation 7.5 in foundation and plinth in:				
	DSR 6.1.2	Cement mortar 1:6 (1cement: 6 coarse sand)	158.78	M3	4,751.65	7,54,487
4.2	D.S.R. 6.4	Brick work with common burnt clay F.P.S. (non modular) bricks of class designation 7.5 in superstructure above plinth level up to floor V level in all shapes and sizes in				
	D.S.R. 6.4.2	Cement mortar 1:6 (1cement: 6 coarse sand)	138.34	M3	5,582.85	7,72,315
4.3	D.S.R. 6.5	Extra for brick work / AAC block masonry / Tile brick masonry in superstructure above floor V level, for each four floors or part thereof by mechanical means.	216.71	cum	205.45	44,524
4.4	D.S.R. 6.13	Half brick masonry with common burnt clay F.P.S. (non modular) bricks of class designation 7.5 in superstructure above plinth level up to floor V level				

	D.S.R. 6.13.2	Cement mortar 1:4 (1 cement: 4 coarse sand)	32.78	sqm	684.20	22,426
4.5	D.S.R. 6.15	Extra for providing and placing in position 2 nos, 6mm dia M.S. bars at every third course of half brick masonry (with F.P.S. bricks).	32.78	sqm	56.85	1,863
4.6	D.S.R. 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	1312.27	cum	6,818.60	89,47,834
4.7	D.S.R. 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 seperately).	1346.58	cum	5,687.10	76,58,120
		TOTAL OF BRICK WORK				1,82,01,570
5.0	5.0	JOINERY WORK				
5.1	D.S.R. 9.161	Providing and fixing fire-resistant door frame of section 50 x 60 mm on horizontal side & 35 x 60 mm on vertical sides having built in rebate made out of 1.6 mm thick GI sheet (Zinc coating not less than 120gm/m ²) suitable for mounting 120 min Fire Rated Glazed Door Shutters. The frame shall be filled with Mineral wool Insulation having density min 96Kg/m ³ . The frame will have a provision of G.I. Anchor fastners 14 nos (5 each on vertical style & 4 on horizontal style of size M10 x 80) suitable for fixing in the opening along with Factory made Template for SS Ball Bearing Hinges of Size 100x89x3mm for fixing of fire rated glazed shutter. The frame shall be finished with a approved fire resistant primer or Powder coating of not less than 30 micron in desired shade as per the directions of Engineer - in-charge. (Cost of SS ball bearing hinges is excluded).	87.00	Mtr.	1,260.00	1,09,620

5.2	D.S.R. 9.162	Providing and fixing 60 mm thick glazed fire resistant door shutters of 120 min Fire Rating confirming to IS:3614 (Part II) or EN1634-1:1999, tested and certified as per laboratory approved by Engineer-in-charge, with suitable mounting on door frame, consisting of vertical styles, top rail & side rail 60 mm x 60 mm wide and bottom rail of 110 mm x 60 mm made out of 1.6mm thick G.I. sheet (zinc coating not less than 120gm/m ²) duly filled mineral wool insulation having density min 96 kg/m ³ and fixing with necessary stainless steel ball bearing hinges of size 100x89x3mm of approved make, including applying a coat of approved fire resistant primer or powder coating not less than 30 micron etc all complete as per direction of Engineer-in-charge (panelling to be paid for separately).	47.52	Sqm.	6,839.35	3,25,006
5.3	D.S.R. 9.164	Providing and fixing glazing in fire resistant door shutters, fixed panels & partitions etc., with G.I. beading made out of 1.6 mm thick G.I. sheet (zinc coating not less than 120 gm/m ²) of size 20 x 33 mm screwed with M4 x 38 mm SS screws at distance 75 mm from the edges and 150 mm c/c , including applying a coat of approved fire resistant primer/powder coating of not less than 30 micron on G.I. beading, & special ceramic tape of 5 x 20 mm size etc complete in all respect as per direction of Engineer-in-charge. The glass shall be clear, toughened, interlayered, non-wired fire resistant having 11 mm thickness of approved brand with 120 minutes of fire resistance both integrity & radiation control (EW120) and minimum 15 min of insulation (EI15) and having a sound reduction of 37dB and LT of 86%. Glass shall be compliant to class 2(B)2 category of Impact Resistance as per EN 12600. The glass should be manufactured in UL & TUV audited Facility and including UL-EU certification. The maximum glazing size cannot be more than 1100 mm x 2200 mm (w x h) or 2.42 sq mts in total area. The test report for the complete system (Glazed Door	38.02	Sqm	34,058.90	12,94,783

		or Partition) will be considered valid only if it contains the stamp and signature of the authorized signatory from the glass manufacturer. (Actual glass size is to be measured at site for payments).				
5.4	DSR 9.165	Providing and fixing bright /matt finished Stainless Steel handles of approved quality & make with necessary screws etc all complete.				
	DSR 9.165.1	125 mm	56.00	Each	89.70	5,023
5.5	D.S.R. 9.139	Providing and fixing panic bar / latch (Double point) fitted with a single body, Trim Latch & Lock on back side of the Panic Latch of reputed brand and manufacture to be approved by the Engineer- in- charge, all complete.	14.00	Nos.	6,143.30	86,006
5.6	D.S.R. 9.24	Extra for providing vision panel not exceeding 0.1 sqm in all type of flush doors (cost of glass excluded) (overall area of door shutter to be measured):				
	9.24.1	Rectangular or square.	61.85	Sqm.	162.60	10,056
5.7	D.S.R. 9.26	Extra for cutting rebate in flush door shutters (Total area of the shutter to be measured).	61.85	Sqm.	127.75	7,901
5.8	D.S.R. 9.21.1	Providing and fixing ISI marked flush door shutters conforming to IS: 2202 (Part - I) non-decorative type, core of block board construction with frame of 1 st class hard wood and well matched commercial 3 ply veneering with vertical grains or cross bands and face veneers on both faces of shutters:				
		35mm thick including ISI marked stainless steel butt hinges with necessary screws.	618.48	Sqm	1,559.75	9,64,674
5.9	D.S.R. 9.103	Providing and fixing bright finished brass 100 mm mortice latch and lock ISI marked with six levers and a pair of anodised (anodise coating not less than grade AC 10 as per IS: 1868) Aluminium lever handles with necessary screws etc. complete (Best make of approved quality)	205.00	Nos.	622.15	1,27,541

Signature of Tenderer

5.10	D.S.R. 9.1	Providing wood work in frames of doors, windows, clerestory windows and other frames, wrought framed and fixed in position with hold fast lugs or with dash fasteners of required dia & length (hold fast lugs or dash fastener shall be paid for separately).				
	D.S.R. 9.1.1	Second class teak wood (Ghana Teak)	13.25	Cum	92,743.05	12,28,643
5.11	DSR 9.127	Providing & Fixing decorative high pressure laminated sheet of plain / wood grain in gloss / matt / suede finish with high density protective surface layer and reverse side of adhesive bonding quality conforming to IS: 2046 Type S, including cost of adhesive of approved quality.				
	DSR 9.127.2	1.0 mm thick	1236.96	Cum	518.00	6,40,745
5.12	DSR 9.101	Providing and fixing aluminium hanging floor door stopper, ISI marked, anodised (anodic coating not less than grade AC 10 as per IS : 1868) transparent or dyed to required colour and shade, with necessary screws etc. complete.				
	DSR 9.101.2	Twin rubber stopper	286.00	each	38.00	10,868
5.13	DSR 9.63	Providing and fixing ISI marked oxidised M.S. tower bolt (Barrel type) with necessary screws etc. complete:				
	DSR 9.63.1	250x10 mm	176.00	each	64.00	11,264
	DSR 9.63.4	100x10 mm	110.00	each	31.40	3,454
		TOTAL OF JOINERY WORK				48,25,585
6.0	6.0	STEEL WORK				
6.1	D.S.R. 10.5	Providing and fixing 1mm thick M.S. sheet door with frame of 40x40x6mm angle iron and 3mm M.S. gusset plates at the junctions and corners, all necessary fittings complete, including applying a priming coat of approved steel primer				
	10.5.1	Using M.S. angels 40x40x6 mm for diagonal braces.	7.44	Sqm.	2,870.25	21,355

6.2	D.S.R. 10.13	Providing and fixing T-iron frames for doors, windows and ventilators of mild steel Tee-sections, joints mitred and welded, including fixing of necessary butt hinges and screws and applying a priming coat of approved steel primer. Fixing with 15x3 mm lugs 10 cm long embedded in cement concrete block 15x10x10 cm of C.C. 1:3:6 (1 Cement: 3 coarse sand: 6 graded stone aggregate 20mm nominal size)	44.00	Kg.	74.05	3,258
6.3	D.S.R. 10.25	Steel work welded in built up sections/framed work including cutting, hoisting, fixing, in position and applying a priming coat of approved steel primer using structural steel etc. as required at all levels.				
(a)	10.25.1	In stringers, treads, landings etc. of stair cases, including use of chequered plate wherever required, all complete	2000.00	Kg.	65.80	1,31,600
(b)	10.25.2	In gratings, frames, guard bar ladders railings, brackets, gates & similar works.	4440.16	Kg.	85.95	3,81,632
6.4	D.S.R. 10.16	Steel work in built up tubular (round, square or rectangular hollow tubes etc.) trusses etc., including cutting, hoisting, fixing in position and applying a priming coat of approved steel primer, including welding and bolted with special shaped washers etc. complete.				
	10.16.2	Hot finished seamless type tubes	61977.60	Kg.	93.90	58,19,697
6.5	D.S.R. 10.28	Providing and fixing stainless steel (Grade 304) railing made of Hollow tubes, channels, plates etc., including welding, grinding, buffing, 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 , stainlesssteel 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-incharge,(for payment purpose only weight of stainless steel members shall be considered excluding fixing accessories such as nuts, bolts,fasteners etc.).	504.00	Kg.	472.40	2,38,090
		TOTAL OF STEEL WORK				65,95,631

7.0	7.0	FLOORING WORK				
7.1	D.S.R. 11.3	Cement concrete flooring 1:2:4 (1 cement: 2 coarse sand: 4 graded stone agg.) finished with a floating coat of neat cement including cement slurry, but excluding the cost of nosing of steps etc. complete.				
		40mm thick with 20mm nominal size stone aggregate	1339.29	Sqm	362.60	4,85,625
7.2	D.S.R. 11.26	25mm th. Kota stone slab flooring over 20mm (average) thick base laid over and jointed with grey cement slurry mixed with pigment to match the shade of the slab including rubbing and polishing complete with base of cement mortar 1:4 (1 cement :4 coarse sand)	63.49	Sqm	1,158.10	73,529
7.3	D.S.R. 11.27	Kota stone slabs 25 mm thick in risers of steps skirting dado and pillars laid 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.	351.32	Sqm	1,238.20	4,35,003
7.4	D.S.R. 11.36	Providing and fixing 1st quality ceramic glazed wall tiles conforming to IS: 13753 (thickness to be specified by the manufacture) of approved make in all colours, shades except begundy, bottle green, black of any size as approved by engineer-in-charges in skirting, risers of steps and dados over 12 mm thick bed of cement mortar 1:3 (1cement: 3 corase sand) and jointing with grey cement slurry @ 3.3. kg per sqm inlcuding pointing in white cement mixed with pigment of matching shade complete.	1999.63	Sqm	744.80	14,89,321
7.5	D.S.R. 11.37	Providing and laying ceramic glazed floor tiles 300x300 mm (thickness to be specified by the manufacturer) of 1st quality conforming to IS : 13755 of approved make in colours such as white, Ivory, Grey, Fume Red Brown laid on 20 mm thick cement mortar 1:4 (1 cement : 4 coarse sand) including pointing the joints wiht white cement and matching pigment ect., complete.	1047.37	Sqm	688.35	7,20,956

7.6	D.S.R. 11.41	Providing and laying Vitrified tiles in floor with 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 with cement based high polymer modified quick set tile adhesive (water based) conforming to IS : 15477, in average 6 mm thickness, including grouting of joints				
	11.41.2	Size of tiles 600 x 600 mm	6046.00	Sqm	1,119.40	67,67,888
7.7	D.S.R. 11.51	Providing and laying machine cut, mirror polished, Italian Marble stoneflooring laid in required pattern in linear portion of the building all completeas per architectural drawings, with 18 mm thick stone slab laid over 20mm (average) thick base of cement mortar 1:4 (1 cement : 4 coarsesand) laid and jointed with white cement slurry @ 4.4 kg/sqm, includingpointing with white cement slurry admixed with pigment to match themarble shade including rubbing, curing and polishing etc. all completeas specified and as directed by the Engineer-in-Charge.				
	D.S.R. 11.51.1	18 mm thick Italian Marble stone slab, Perlato, Rosso Fire Red or Dark Emperadore etc. verona,	417.18	sqm	5,006.00	20,88,387
7.8	D.S.R. 8.13	Providing and laying Polished Granite stone flooring in requireddesign 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.				
	D.S.R. 8.13.1	Polished Granite stone slab jet Black, Cherry Red, Elite Brown, Cat Eye or equivalent.	2227.97	sqm	2,937.70	65,45,109
7.9	D.S.R.19. 18	Supplying and fixing C.I. cover without frame for manholes:				
	19.18.2	500 mm diameter C.I. cover (medium duty) the weight of the cover to be not less than 58 kg.	9.00	Each	2,749.80	24,748

7.10	DSR 16.48	Painting road surface marking with adequate nos of coats to give uniform finish with ready mixed road marking paint conforming to IS: 164, on bituminous surface in white/yellow shade, including cleaning the surface of all dirt, scales, oil, grease and foreign material etc. complete.				
	DSR 16.48.1	New work (Two or more coats)	200.00	Sqm	133.10	26,620
7.11	DSR 16.31	Providing and applying tack coat using bitumen emulsion conforming to IS: 8887, using emulsion pressure distributor including preparing the surface & cleaning with mechanical broom.				
	DSR 16.31.2	With medium setting bitumen emulsion				
	DSR 16.31.2.1	On W.B.M / W.M.M. @ 0.4kg/sqm	11946.00	Sqm	13.20	1,57,687
7.12	DSR 16.54	Providing and laying Dense Graded Bituminous Macadam using crushed stone aggregates of specified grading, premixed with bituminous binder and filler, transporting the hot mix to work site by tippers, laying with paver finisher equipped with electronic sensor to the required grade, level and alignment and rolling with smooth wheeled, vibratory and tandem rollers as per specifications to achieve the desired compaction and density, complete as per specifications and directions of Engineer-in-Charge.				
	DSR 16.54.1	100 mm compacted thickness with bitumen of grade VG-30 @ 5% (percentage by weight of total mix) and lime filler @ 2% (percentage by weight of Aggregate) prepared in Batch Type Hot Mix Plant of 100-120 TPH capacity (Thickness not less than 100 mm).	1194.60	Cum	7,247.70	86,58,102
7.13	DSR 16.57	Providing and laying Bituminous concrete using crushed stone aggregates of specified grading, premixed with bituminous binder and filler, transporting the hot mix to work site by tippers, laying with paver finisher equipped with electronic sensor to the required				

		grade, level and alignment and rolling with smooth wheeled, vibratory and tandem rollers to achieve the desired compaction and density as per specification, complete and as per directions of Engineer-in-Charge.				
	DSR 16.57.1	50 mm compacted thickness with bitumen of grade VG-30 @ 5.5% (percentage by weight of total mix) and lime filler @ 3% (percentage by weight of Aggregate) prepared in Batch Type Hot Mix Plant of 100-120 TPH capacity. (Thickness not less than 50 mm).	597.30	Cum	7,863.85	46,97,078
7.14	D.S.R. 16.75	Providing and laying CC pavement of mix M-25 with ready mixed concrete from batching plant. The ready mixed concrete shall be laid and finished with screed board vibrator, vacuum dewatering process and finally finished by floating with neat finish including cutting and cleaning of grooves (as per drawing) using mechanical handcutter i.e. diamond saw etc. complete as per specifications and directions of engineer -in -charge.	186.00	Cum	6,912.15	12,85,660
7.15	DSR 16.92	Providing and fixing 10x10x7.50 cm Granite stone block hand cut and chisel dressed on top, for paving in floors, drains etc. laid over 20mm thick base mortar 1:4 (1 cement: 4 coarse sand) with joints 10mm wide filled with same mortar including ruled pointing etc. complete as per direction of engineer-in-charge	597.30	Sqm.	1,395.25	8,33,383
7.16	DSR 16.68	Providing and laying 60mm thick factory made cement concrete interlocking paver block of M-30 grade made by block making machine with strong vibratory compaction and of approved size and design/ shape laid in required color and pattern over and including 50mm thick compacted bed of coarse sand all complete as per specification, and including filling the joint with fine sand approved sample and drawing or as directed by Engineer in charge.	1990.50	Sqm.	615.70	12,25,551
7.17	DSR	Providing and laying flamed finish Granite	100.00	Sqm.	2,887.85	2,88,785

	8.12.1	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 curing etc. all complete as specified and as directed by the Engineer-in-Charge :Flamed finish granite stone slab Jet Black, Cherry Red, Elite Brown, Cat Eye or equivalent as per approved sample.				
		TOTAL OF FLOORING				3,58,03,432
8.0	8.0	ROOFING & WATER PROOFING				
8.1	D.S.R. 22.1	Providing and laying integral cement based treatment for water proofing on horizontal surface at all depth below ground level for under ground structures as directed by Engineer-in-Charge and consisting of : i) Ist layer of 22mm to 25mm thick approved and specified rough stone slab over a 25mm thick base of cement mortar 1:3 (1 cement : 3 coarse sand) mixed with water proofing compound conforming to IS:2645 in the recommended proportion over the leveling course (leveling course to be paid separately). Joints sealed and grouted with cement slurry mixed with water proofing compound. ii) 2nd layer of 25mm thick cement mortar 1:3 (1 cement:3 coarse sand) mixed with water proofing compound in recommended proportions. iii) Finishing top with stone aggregate of 10mm to 12mm nominal size spreading @ 8 cudm/sqm thoroughly embedded in the 2nd layer.				
	DSR 22.1.1	Using rough kota stone.	630.22	Sqm.	1,017.55	6,41,280

8.2	D.S.R. 22.2	Providing and laying integral cement based treatment for water proofing on the vertical surface by fixing specified stone slab 22 mm to 25mm thick with cement slurry mixed with water proofing compound conforming to IS:2645 in recommended proportions with a gap of 20mm (minimum) between stone slabs and the receiving surfaces and filling the gaps with neat cement slurry mixed with water proofing compound and finishing the exterior of stone slab with cement mortar 1:3 (1 cement : 3 coarse sand) 20mm thick with neat cement punning mixed with water proofing compound in recommended proportion complete at all levels and as directed by Engineer-in-charge :				
	DSR 22.2.1	Using rough kota stone.	826.51	Sqm.	1,253.30	10,35,864
8.3	D.S.R. 22.4	Providing and Placing in position suitable PVC water stops conforming to IS:12200 for construction/ expansion joints between two RCC members and fixed to the reinforcement with binding wire before pouring concrete etc. complete:				
	22.4.1	Serrated with central bulb (225mm wide, 8-11mm thk)	370.50	Mtr.	254.15	94,163
8.4	D.S.R. 22.19	Providing and laying APP (Atactic Polypropylene Polymer) modified prefabricated five layer, 3mm thick water proofing membrane, black finished reinforced with glass fibre matt consisting of a coat of bitumen primer for bitumen membrane @ 0.40 ltr/sqm. by the same membrane manufactured of density at 25°C, 0.87 - 0.89 kg/ltr and viscocity 70 - 160 cps. Over the primer coat the layer of membrane shall be laid using butane torch and sealing all joints etc., and preparing the surface complete. The vital physical and chemical parameters of the membrane shall be as under : Joint strength in longitudinal and transverse direction at 23°C as 350/300 N/5cm. Tear strength in longitudinal and transverse direction as 60/80N. Softening point of membrane not less than 150°C. Cold flexibility shall be upto -2°C when tested in accordance with ASTM, D - 5147. The				

		laying of membrane shall be got done through the authorised applicator of the manufacturer of membrane:				
	22.19.1	3 mm thick	579.75	Sqm.	410.70	2,38,102
8.5	D.S.R. 12.21	Providing gola 75x75 mm in cement concrete 1:2:4 (1 cement: 2 coarse sand: 4 stone agg. 10 mm and down gauge) including finishing with cement mortar 1:3 (1 cement:3 fine sand) as per standard design:				
		In 75 x 75 mm deep chase	1272.36	Rm	153.00	1,94,670
8.6	D.S.R. 12.22	Making khurras 45 x 45 with average minimum thick ness of 5 cm cement concrete 1:2:4 (1 cement :2 coarse sand :4 stone aggregate of 20 mm niminal size) over P.V.C. sheet 1m x 1m x 400 micron, finished with 12 mm cement plaster 1:3 (1 cement : 3 coarse sand) and a coat of neat cement rounding the edges and making and finishing the outlet complete.	13.00	Nos.	187.60	2,439
8.7	D.S.R. 12.51	Providing and fixing precoated galvanised steel sheet roofing accessories 0.50 mm (+ 0.05 %) total coated thickness, Zinc coating 120 grams per sqm as per IS: 277, in 240 mpa steel grade, 5-7 microns epoxy primer on both side of the sheet and polyester top coat 15-18 microns using self drilling/ self tapping screws complete:				
	12.51.6	Gutter (600 mm over all girth)	124.00	RMT	833.05	1,03,298
8.8	D.S.R.12. 45	Providing and fixing false ceiling at all height including providing and fixing of frame work made of special sections, power pressed from M.S. sheets and galvanized with zinc coating of 120 gms/sqm (both side inclusive) as per IS : 277 and consisting of angle cleats of size 25 mm wide x 1.6 mm thick with flanges of 27 mm and 37mm, at 1200 mm centre to centre, one flange fixed to the ceiling with dash fastener 12.5 mm dia x 50mm long with 6mm dia bolts, other flange of cleat fixed to the angle hangers of 25x10x0.50 mm of required length with nuts & bolts of required size and other end of angle hanger fixed with intermediate G.I. channels 45x15x0.9 mm running at the spacing of 1200 mm centre to centre, to				

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		which the ceiling section 0.5 mm thick bottom wedge of 80 mm with tapered flanges of 26 mm each having lips of 10.5 mm, at 450 mm centre to centre, shall be fixed in a direction perpendicular to G.I. intermediate channel with connecting clips made out of 2.64 mm dia x 230 mm long G.I. wire at every junction,				
		including fixing perimeter channels 0.5 mm thick 27 mm high having flanges of 20 mm and 30 mm long, the perimeter of ceiling fixed to wall/partition with the help of rawl plugs at 450 mm centre, with 25mm long dry wall screws @ 230 mm interval, including fixing of gypsum board to ceiling section and perimeter channel with the help of dry wall screws of size 3.5 x 25 mm at 230 mm c/c, including jointing and finishing to a flush finish of tapered and square edges of the board with recommended jointing compound , jointing tapes , finishing with jointing compound in 3 layers covering upto 150 mm on both sides of joint and two coats of primer suitable for board, all as per manufacturer's specification and also including the cost of making openings for light fittings, grills, diffusers, cutouts made with frame of perimeter channels suitably fixed, all complete as per drawings, specification and direction of the Engineer in Charge but excluding the cost of painting with:				
	D.S.R 12.45.1	12.5 mm thick tapered edge gypsum plain board conforming to IS: 2095- (Part I): 2011 (Board with BIS certification marks)	5835.46	SQM	806.20	47,04,544
8.9	D.S.R.12. 52	Providing and fixing tiled false ceiling of specified materials of size 595x595 mm in true horizontal level, suspended on inter locking metal grid of hot dipped galvanized steel sections (galvanized @ 120 grams/ sqm, both side inclusive) consisting of main "T" runner with suitably spaced joints to get required length and of size 24x38 mm made from 0.30 mm thick (minimum) sheet, spaced at 1200 mm center to center and cross "T" of size 24x25 mm made of 0.30 mm thick (minimum) sheet, 1200 mm long spaced between main T at 600 mm center to				

		center to form a grid of 1200x600 mm and secondary cross "T" of length 600 mm and size 24x25 mm made of 0.30 mm thick (minimum) sheet to be interlocked at middle of the 1200x600 mm panel to form grids of 600x600 mm and wall angle of size 24x24x0.3 mm and laying false ceiling tiles of approved texture in the grid including, required cutting/making, opening for services like diffusers, grills, light fittings, fixtures, smoke detectors etc. Main T runners to be suspended from ceiling using GI slotted cleats of size 27 x 37 x 25 x 1.6 mm fixed to ceiling with 12.5 mm dia and 50mm long dash fasteners, 4 mm GI adjustable rods with galvanised butterfly level clips of size 85 x 30 x 0.8 mm spaced at 1200 mm center to center along main T, bottom exposed width of 24 mm of all T-sections shall be pre-painted with polyester paint, all complete for all heights as per specifications, drawings and as directed by Engineer-in-charge.				
	12.52.2	GI Metal Ceiling Lay in perforated Tegular edge global white color tiles of size 595x595 mm and 0.5 mm thick with 8 mm drop; made of GI sheet having galvanizing of 100 gms/sqm (both sides inclusive) and 20% perforation area with 1.8 mm dia holes and having NRC (Noise Reduction Coefficient) of 0.5, electro statically polyester powder coated of thickness 60 microns (minimum), including factory painted after bending and perforation, and backed with a black Glass fiber acoustical fleece.	981.76	SQM	1,163.90	11,42,665

8.10	D.S.R. 22.22	Providing and mixing integral crystalline admixture for waterproofing treatment to RCC structures like water retaining tanks, retaining walls, reservoir, sewage & water treatment plant, tunnels / subway and bridge deck etc. at the time of transporting of concrete into the drum of the ready-mix truck, using integral crystalline admixture @0.80% (minimum) to the weight of cement content per cubic meter of concrete) or higher as recommended by the manufacturer's specification in reinforced cement concrete at site of work. The material shall meet the requirements as specified in ACI-212-3R-2010 i.e. by reducing permeability of concrete by more than 90%, compared with control concrete as per DIN 1048 and resistant to 16 bar hydrostatic pressure. The crystalline admixture shall be capable of self-healing of cracks up to a width of 0.50mm. The work shall be carried out all complete as per specification and the direction of the Engineer-in-charge. The product performance shall carry guarantee for 10 years against any leakage.	379.93	Kg	376.40	1,43,007
8.11	D.S.R. 22.5	Providing and laying water proofing treatment in sunken portion of WC's bathroom etc., by applying cement slurry mixed with water proofing cement compound consisting of applying for 48 hours. The rate includes preparation of surface, treatment a) First layer of slurry of cement @ 0.488 kg/sqm mixed with water proofing cement compound @ 0.253 kg/sqm. This layer will be allowed to air cure for 4 hours (b) Second layer of slurry of cement @ 0.242 kg/sqm mixed with water proofing cement compound @ 0.126 kg/sqm. This layer will be allowed to air cure for 4 hours followed with water curing for 48 hours. The rate includes preparation of surface, treatment and sealing of all joints, corners, junctions of pipes and masonry with polymer mixed slurry.	403.81	Sqm	298.30	1,20,456
8.12	D.S.R.22. 14	Grading roof for water proofing treatment with				

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	22.14.1	Cement concrete 1:2:4 (1 cement: 2 coarse sand: 4 graded stone aggregate 20 mm nominal size)	132.62	Cum.	5,583.80	7,40,547
8.13	D.S.R. 22.21	Extra for covering top of membrane with Geotextile, 120gsm non woven, 100% polyester of thickness 1 to 1.25mm bonded to the membrane with intermittent touch by heating the membrane by Butane Torch as per manufactures recommendation.	2241.07	Sqm.	76.65	1,71,778
8.14	D.S.R. 12.55	Providing and fixing Heat Resistant Terrace Tiles (300 mm x 300 mm x 20 mm) with SRI (solar refractive index) > 78, solar reflection >0.70 and initial emittance >0.75 on waterproof and sloped surface of terrace, laid on 20 mm thick cement sand mortar in the ratio of 1:4 (1 cement : 4 coarse sand) and grouting the joints with mix of white cement & marble powder in ratio of 1:1, including rubbing and polishing of the surface upto 3 cuts complete, including providing skirting upto 150 mm height along the parapet walls in the same manner.	2241.07	Sqm.	1,150.00	25,77,227
8.15	D.S.R. 12.56	Providing and laying roof insulation with 40 mm thick impervious sprayed, closed cell free Rigid Polyurethane foam over deck insulation conforming to IS - 12432 Pt. III (density of foam being 40-45 kg/cum), over a coat of polyurethane primer applied @ 6-8 sqm per litre, laying 400 G polythene sheet over PUF spray and providing a wearing course of 40 mm thick cement screed 1: 2 : 4 (1 cement : 2 coarse sand : 4 stone aggregate 20 mm nominal size) in chequered rough finish, in panels of 2.5 m x 2.5 m and embedding with 24 G wire netting and sealing the joints with polymerized mastic, all complete as per direction of Engineer-in-Charge.	1661.32	Sqm.	1,151.05	19,12,263
		Water Tank, ETP, STP				
8.16	26.39	Providing and inserting 12mm dia galvanised steel injection nipple in honey comb area and along crack line including drilling of holes of required diameter (20mm to 30mm) up to	167.80	Nos	147.50	24,751

		depth from 30mm to 80mm at required spacing and making the hole & crack dust free by blowing compressed air, sealing the distance between injection nipple with adhesive chemical of approved make and allow it to cure complete as per direction of Engineer-In-Charge.				
8.17	DSR 22.23	Providing and applying integral crystalline slurry of hydrophilic in nature for waterproofing treatment to the RCC structures like retaining walls of the basement, water tanks, roof slabs, podiums, reservoir, sewage & water treatment plant, tunnels/ subway and bridge deck etc., prepared by mixing in the ratio of 5 : 2 (5 parts integral crystalline slurry : 2 parts water) for vertical surfaces and 3 : 1 (3 parts integral crystalline slurry : 1 part water) for horizontal surfaces and applying the same from negative (internal) side with the help of synthetic fiber brush. The material shall meet the requirements as specified in ACI- 212-3R-2010 i.e by reducing permeability of concrete by more than 90% compared with control concrete as per DIN 1048 and resistant to 16 bar hydrostatic pressure on negative side. The crystalline slurry shall be capable of self-healing of cracks up to a width of 0.50mm. The work shall be carried out all complete as per specification and the direction of the engineer-in-charge. The product performance shall carry guaranteed for 10 years against any leakage.				
a)	DSR 22.23.1	For vertical surface two coats @0.70 kg per sqm per coat	112.69	Sqm	468.10	52,748
b)	DSR 22.23.2	For horizontal surface one coat @1.10 kg per sqm.	55.73	Sqm	362.35	20,195
		TOTAL ROOFING & WATER PROOFING				1,39,19,997
9.0	9.0	FINISHING WORK				
9.1	D.S.R.13.4.2	12 mm cement plaster of mix:				
		Providing and applying smooth internal plaster with Cement Mortar 1:6 (1 cement : 6 coarse sand) 12 mm thick on brick masonry surface	10753.76	Sqm	168.25	18,09,321

		/AAC block masonry surface and concrete surface, so as to match the existing line and level of surrounding plaster, inclusive of scaffolding, raking out joints, roughening exposed concrete, bond coat of cement slurry on the interface, curing and finishing at all levels/height complete as per side incharge.				
9.2	D.S.R. 13.5.2	15 mm cement plaster on the rough side of single or half brick wall of mix.				
		Providing and applying smooth internal plaster with Cement Mortar 1:6 (1 cement : 6 coarse sand) 15 mm thick on brick masonry surface /AAC block masonry surface and concrete surface, so as to match the existing line and level of surrounding plaster, inclusive of scaffolding, raking out joints, roughening exposed concrete, bond coat of cement slurry on the interface ,curing and finishing at all levels/height complete as per side incharge.	6616.90	Sqm	194.60	12,87,648
9.3	D.S.R. 13.12	18 mm cement plaster in two coats under layer 12 mm thick cement plaster 1:5 (1 cement: 5 coarse sand) and a top layer 6 mm thick cement plaster 1:3 (1 cement: 3 coarse sand) finished rough with sponge.	2874.10	Sqm	272.05	7,81,898
9.4	D.S.R.13. 16	6 mm cement plaster to ceiling of mix:				
		Providing and applying smooth internal plaster with Cement Mortar 1:3 (1 cement : 3 Fine sand) 6 mm thick on Ceiling and concrete surface, so as to match the existing line and level of surrounding plaster, inclusive of scaffolding, raking out joints, roughening exposed concrete, bond coat of cement slurry on the interface ,curing and finishing at all levels/height complete as per side incharge.	20182.77	Sqm	143.80	29,02,282
9.5	DSR 13.18	Providing Neat cement punning to a thickness of about 1.5mm, finished smooth with steel trowel including preparation of surfce, scaffolding, curing etc., at all levels/heights and locations complete as specified and as directed.	40.00	Sqm	42.60	1,704

9.6	D.S.R. 13.44	Finishing walls with water proofing cement paint of required shade:				
	13.44.1	New work (Two or more coats applied @ 3.84 kg/10 sqm).	742.68	M2	58.80	43,670
9.7	DSR 13.45.1	Finishing walls with textured exterior paint of required shade, New work (Two or more coats applied @ 3.28 ltr/10 sqm) over and including priming coat of exterior primer applied @ 2.20kg/10 sqm	3115.58	Sqm	150.65	4,69,362
9.8	DSR 13.46.1	Finishing walls with Acrylic Smooth exterior paint of required shade, New work (Two or more coat applied @ 1.67 ltr/10 sqm over and including priming coat of exterior primer applied @ 2.20 kg/10 sqm)	200.00	Sqm	96.05	19,210
9.9	DSR 16.69	Providing and laying at or near ground level factory made kerb stone of M-25 grade cement concrete in position to the required line, level and curvature, jointed with cement mortar 1:3 (1 cement: 3 coarse sand), including making joints with or without grooves(thickness of joints except at sharp curve shall not to more than 5mm),including making drainage opening wherever required complete etc. as per direction of Engineer-in-charge (length of finished kerb edging shall be measured for payment). (Precast C.C. kerb stone shall be approved by Engineer-in-charge).	164.25	Cum	5,012.65	8,23,328
9.10	DSR 13.37	White washing with lime to give an even shade:				
	13.37.1	New work (three or more coats)	1974.67	Sqm	17.25	34,063
9.11	D.S.R. 13.41	Distempering with oil bound washable distemper of approved brand and manufacture to give an even shade. Asian/ Nerolac/or equivalent as per approved by engineer incharge.				
		New work (two or more coats) over and including priming coat with cement primer.	3660.19	Sqm	93.70	3,42,960

9.12	D.S.R. 3.82	Wall painting with acrylic emulsion paint, having VOC (Volatile Organic Compound) content less than 50 grams/ litre, of approved brand and manufacture, including applying additional coats wherever required, to achieve even shade and colour.				
	D.S.R. 3.82.2	Two coats	32403.76	Sqm	73.90	23,94,638
9.13	D.S.R. 4.17	Making plinth protection 50mm thick of cement concrete 1:3:6 (1cement: 3 coarse sand: 6 graded stone aggregate 20 mm nominal size) over 75 mm bed by dry brick ballast 40mm nominal size well rammed and consolidated and grouted with fine sand including finishing the top smooth.	179.23	Sqm	450.35	80,718
9.14	D.S.R. 13.62	Painting with synthetic enamel paint of approved brand and manufacture of required colour to give an even shade: Asian / Nerolac / or equivalent as per approved by engineer incharge.				
	13.62.1	Two or more coats on new work over an under coat of suitable shade with ordinary paint of approved brand and manufacture.	4592.33	Sqm	112.30	5,15,718
		TOTAL OF FINISHING WORK				1,15,06,520
10.0	10	ALUMINIUM, FAÇADE & GLAZING WORK				
	A	Sub-Head: Aluminium Work				
10.1	DSR 21.1	Providing and fixing aluminium work for doors, windows, ventilators and partitions with extruded built up standard tubular sections/appropriate Z sections 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):				
a)	21.1.1	For fixed portion	-			
i)	21.1.1.3	Polyester powder coated aluminium (minimum thickness of polyester powder coating 50 micron)	8063.15	Kg	391.80	31,59,142
b)	21.1.2	For shutters of doors, windows & ventilators including providing and fixing hinges/ pivots and making provision for fixing of fittings wherever required including the cost of EPDM rubber / neoprene gasket required (Fittings shall be paid for separately).				
i)	21.1.2.3	Polyester powder coated aluminium (minimum thickness of polyester powder coating 50 micron)	806.32	Kg	452.40	3,64,777
10.2	21.4	Providing and fixing double action hydraulic floor spring of approved brand and manufacture conforming to IS : 6315, having brand logo embossed on the body / plate with double spring mechanism and door weight upto 125 kg., for doors, including cost of cutting floors ,embedding in floors as required and making good the same matching to the existing floor finishing and cover plates with brass pivot and single piece M.S. sheet outer box with slide plate etc. complete as per the direction of Engineer-in-charge.				
a)	21.4.1	With stainless steel cover plate minimum 1.25 mm thickness.	4.00	No.	2,054.40	8,218
10.3	DSR 21.8	Filling the gap in between aluminium frame & adjacent RCC/ Brick/ Stone work by providing weather silicon sealant over backer rod of approved quality as per architectural drawings and direction of Engineer-in-charge complete.				
a)	21.8.1	Upto 5mm depth and 5 mm width	1466.26	m	62.45	91,568
10.4	DSR 21.11	Providing and fixing stainless steel (SS 304 grade) adjustable friction windows stays of				

		approved quality with necessary stainless-steel screws etc. to the side hung windows as per direction of Engineer-in-charge complete.				
a)	21.11.2	255 x 19 mm	164.00	No.	269.65	44,223
10.5	DSR 21.19	Filling the gap in between aluminium/ stone/ wood frame and adjacent RCC/Brick/Stone/wood/Ceramic/Gypsum work by providing weather/structural non sag elastomeric PU sealant over backer rod of approved quality as per architectural drawings and direction of Engineer-in-charge complete complying to ASTM C920, DIN 18540-F & ISO 11600.				
b)	21.19.2	Upto 10 mm depth and 10 mm width	1466.26	m	133.20	1,95,306
10.6	DSR 21.18	Providing and fixing 12 mm thick frameless toughened glass door shutter of approved brand and manufacture, including providing and fixing top & bottom pivot & spring type fixing arrangement and making necessary holes etc. for fixing required door fittings, all complete as per direction of Engineer-in-charge (Door handle, lock and stopper etc.to be paid separately).	64.02	Sqm	4,608.85	2,95,059
	B	Sub-Head: Structural Glazing				
10.7	DSR 25.1	Providing and supplying aluminium extruded tubular and other aluminium sections as per the architectural drawings and approved shop drawings, the aluminium quality as per grade 6063 T5 or T6 as per BS 1474, including super durable powder coating of 60-80 microns conforming to AAMA 2604 of required colour and shade as approved by the Engineer-in-Charge. (The item includes cost of material such as cleats, sleeves, screws etc. necessary for fabrication of extruded aluminium frame work. Nothing extra shall be paid on this account).	2053.19	Kg	338.25	6,94,490
10.8	DSR 25.2	Designing, fabricating, testing, 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 passed the proof test at 1.5 times design wind pressure without any failure), including functional design of the aluminum sections for fixing glazing panels of various thicknesses, aluminium cleats, sleeves and splice plates etc. gaskets, screws, toggles, nuts, bolts, clamps etc., structural and weather silicone sealants, flashings, fire stop (barrier)-cum-smoke seals, microwave cured EPDM gaskets for water tightness, pressure equalisation & drainage and protection against fire hazard including:				
		b) Fabricating and supplying serrated M.S. hot dip galvanised / Aluminium alloy of 6005 T5 brackets of required sizes, sections and profiles etc. to accommodate 3 Dimensional movement for achieving perfect verticality and fixing structural glazing system rigidly to the RCC/ masonry/structural steel framework of building structure using stainless steel anchor fasteners/ bolts, nylon separator to prevent bimetallic contacts with nuts and washers etc. of stainless steel grade 316, of the required capacity and in required numbers.				
		c) Providing and filling, two part pump filled, structural silicone sealant and one part weather silicone sealant compatible with the structural silicone sealant of required bite size in a clean and controlled factory / work shop environment , including double sided spacer tape, setting blocks and backer rod, all of approved grade, brand and manufacture, as per the approved sealant design, within and all around the perimeter for holding glass.				
		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.				

		<p>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 and of required numbers etc. complete. This item includes cost of all inputs of designing, labour for fabricating and installation of aluminium grid, installation of glazed units, T&P, scaffolding and other incidental charges including wastages etc., enabling temporary structures and services, cranes or cradles etc. as described above and as specified. The item includes the cost of getting all the structural and functional design including shop drawings checked by a structural designer, dully approved by Engineer-in-charge. The item also includes 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 structural glazing as specified, cleaning and protection till the handing over of the building for occupation.</p>				
		<p>In the end, the Contractor shall provide a water tight structural glazing having all the performance characteristics etc. all complete as required, 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.</p>				
		<p>Note: - 1. The cost of providing extruded aluminium frames, shadow boxes, extruded aluminium section capping for fixing in the grooves of the curtain glazing and vermin proof stainless steel wire mesh shall be paid for separately under relevant items under this sub- head. However, for the purpose of payment, only the actual area of structural glazing (including width of grooves) on the external face shall be measured in sqm. up to two decimal places.</p>				

		Note: - 2. The following performance test are to be conducted on structural glazing system if area of structural glazing exceeds 2500 Sqm from the certified laboratories accredited by NABL (National Accreditation Board for Testing and Calibration Laboratories), Department of Science & Technologies, India. Cost of testing is payable separately. The NIT approving authority will decide the necessity of testing on the basis of cost of the work, cost of the test and importance of the work. Performance Testing of Structural glazing system Tests to be conducted in the NBL Certified laboratories				
		(1) Performance Laboratory Test for Air Leakage Test (-50pa to - 300pa) & (+50pa to +300pa) as per ASTM E-283-04 testing method for a range of testing limit 1 to 200 mVhr				
		(2) Static Water Penetration Test. (50pa to 1500pa) as per ASTM E- 331-09 testing method for a range up to 2000 ml.				
		(3) Dynamic Water Penetration (50pa to 1500pa) as per AAMA 501.01- 05 testing method for a range upto 2000 ml				
		(4) Structural Performance Deflection and deformation by static air pressure test (1.5 times design wind pressure without any failure) as per ASTM E-330-10 testing method for a range upto 50 mm				
		(5) Seismic Movement Test (upto 30 mm) as per AAMA 501.4-09 testing method for Qualitative test. Tests to be conducted on site.				
		(6) Onsite Test for Water Leakage for a pressure range 50 kpa to 240 kpa (35psi) upto 2000 ml	168.63	Sqm	2,409.90	4,06,380
10.9	25.4	Extra for openable side / top hung vision glass panels (IGUs) including providing and supplying at site all accessories and hardwares for the openable panels as specified and of the approved make such as heavy duty stainless steel friction hinges, min 4 -point cremone locking sets with stainless steel plates, handles, buffers etc. including necessary stainless steel screws/ fasteners,	42.16	Sqm	2,941.60	1,24,010

		nuts, bolts, washers etc., all complete as per the Architectural drawings, as per the approved shop drawings, as specified and as directed by the Engineer-in- Charge.				
		TOTAL OF ALUMINIUM, FAÇADE & GLAZING WORK				53,83,171
11.0	11	DISMANTLING WORK				
11.1	D.S.R. 15.2	Demolishing cement concrete manually/ by mechanical means including disposal of material within 50 metres lead as per direction of Engineer - in - charge.				
a)	15.2.1	Nominal concrete 1:3:6 or richer mix (i/c equivalent design mix)	10.00	Cum.	997.05	9,971
b)	15.2.2	Nominal concrete 1:4:8 or leaner mix (i/c equivalent design mix)	25.00	Cum.	615.15	15,379
11.2	D.S.R. 15.3	Demolishing R.C.C. work manually/ by mechanical means including stacking of steel bars and disposal of unserviceable material within 50 metres lead as per direction of Engineer - in- charge.	25.00	Cum.	1,454.55	36,364
11.3	D.S.R. 15.7	Demolishing brick work manually/ by mechanical means including stacking of serviceable material and disposal of unserviceable material within 50 mtr lead as per direction of Engineer-in-charge.				
	15.7.4	In cement mortar	25.00	Cum.	842.75	21,069
11.4	D.S.R. 15.8	Removing mortar from bricks and cleaning bricks including stacking within a lead of 50 m (stacks of cleaned bricks shall be measured):				
	15.8.3	From brick work in cement mortar	12.50	1000 Nos.	2,798.60	34,983
		TOTAL OF DISMANTLING ITEMS				1,17,764
12.0	12	SITE DEVELOPMENT WORKS				
12.1	DSR 16.81	Providing and erecting 2.00 metre high temporary barricading at site as per drawing/ direction of Engineer-in-Charge which includes writing and painting, arrangement	612.50	Metre	1,577.05	9,65,943

Signature of Tenderer

		for traffic diversion such as traffic signals during construction at site for day and night, glow lamps, reflective signs, marking, flags, caution tape as directed by the Engineer-in-Charge. The barricading provided shall be retained in position at site continuously i/c shifting of barricading from one location to another location as many times as required during the execution of the entire work till its completion. Rate include its maintenance for damages, painting, all incidentals, labour materials, equipments and works required to execute the job. The barricading shall not be removed without prior approval of Engineer-in-Charge. <i>(Note: - One-time payment shall be made for providing barricading from start of work till completion of work i/c shifting. The barricading provided shall remain to be the property of the contractor on completion of the work).</i>				
12.2	DSR 19.36	Providing and laying Non-Pressure NP-4 class (Heavy duty) R.C.C. pipes including collars/spigot jointed with stiff mixture of cement mortar in the proportion of 1:2(1 cement: 2 fine sand) including testing of joints etc. complete				
(i)	DSR 19.36.1	450 mm dia RCC pipes.	100.00	Mtr	2,211.25	2,21,125
(ii)	DSR 19.36.2	600 mm dia RCC pipes	100.00	Mtr	2,883.70	2,88,370
12.3	D.S.R. 17.32	Providing and fixing mirror of superior glass (of approved quality) and of required shape and size with plastic moulded frame of approved make and shade with 6 mm thick hard board backing:				
	17.32.2	Rectangular shape 453x357mm	119.00	Each	752.80	89,583
12.4	4012/2016/ CIVIL	Circular C.I. Box for ceiling fan internal dia 140 mm, 73 mm height, toplid of 1.5mm thick MS sheet	306.00	each	48.40	14,810

12.5	1.20	Supplying and fixing of following sizes of steel conduit along, with accessories in surface/recess including painting in case of surface conduit, or cutting the wall and making good the same in case of recessed conduit as required.				
	1.20.2	25 mm	40000.00	Metre	144.00	57,60,000
	1.20.3	32 mm	2200.00	Metre	178.00	3,91,600
	1.20.4	40 mm	2000.00	Metre	256.00	5,12,000
	1.20.5	50 mm	2200.00	Metre	323.00	7,10,600
		TOTAL OF SITE DEVELOPMENT WORKS				89,54,032
	A. II	SCHEDULED ITEM - 2 (PLUMBING & FF WORKS)				
	A. II. a	INTERNAL PLUMBING WORK				
A1	2016	Sanitary Fixtures: (Fixing)				
1	17.78	Providing and fixing white vitreous china extended wall mounting water closet of size 780x370x690 mm of approved shape including providing & fixing white vitreous china cistern with dual flush fitting, of flushing capacity 3 litre/ 6 litre (adjustable to 4 litre/ 8 litres), including seat cover, and cistern fittings, nuts, bolts and gasket etc complete	102.00	Each	9,685.70	9,87,941
2	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: -				-
2.1		(a) White Vitreous China Wash basin size 550x400 mm with a 15 mm CP Brass single hole basin mixer	107.00	Each	2,984.20	3,19,309
3	17.10	Providing and fixing Stainless Steel A ISI 304 (18/8) kitchen sink as per IS: 13983 with C.I. brackets and stainless steel plug 40 mm, including painting of fittings and brackets, cutting and making good the walls wherever required:				-
3.1	17.10.1	Kitchen sink with drain board				-
a	17.10.1.3	510x1040 mm bowl depth 200 mm	6.00	Each	3,772.35	22,634

4	17.8	Providing and fixing white vitreous china battery based infrared sensor operated urinal of approx. size 610 x 390 x 370 mm having pre & post flushing with water (250 ml & 500 ml consumption), having water inlet from back side, including fixing to wall with suitable brackets all as per manufacturers specification and direction of Engineer-in-charge.	20.00	Each	5,162.20	1,03,244
		C.P. FITTING				-
5	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.	119.00	Each	254.80	30,321
6	18.21	Providing and fixing uplasticised PVC connection pipe with brass unions:				-
6.1	18.21.2	45 cm length				-
a	18.21.2.1	15 mm nominal bore	429.00	Each	67.80	29,086
7	18.53	Providing and fixing C.P. brass angle valve for basin mixer and geyser points of approved quality conforming to IS:8931				-
7.1	18.53.1	15mm nominal bore	429.00	Each	475.70	2,04,075
8	18.65	Providing and fixing PTMT soap Dish Holder having length of 138mm, breadth 102mm, height of 75mm with concealed fitting arrangements, weighing not less than 106 gms.	66.00	Each	112.30	7,412
9	17.34	Providing and fixing toilet paper holder:	-			-
9.1	17.34.1	C.P. brass	119.00	Each	385.35	45,857
10	17.73	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.				-
10.1	17.73.2	600 mm long towel rail with total length of 645 mm, width 78 mm and effective height of 88 mm, weighing not less than 190 gms.	66.00	Each	422.70	27,898

11	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.	94.00	Each	137.85	12,958
12	17.22A	Providing and fixing CP Brass 32mm size Bottle Trap of approved quality & make and as per the direction of Engineerin- charge.	124.00	Each	795.15	98,599
		Total of Sanitary Fixtures				18,89,335
						-
A2		Soil, Waste, Vent & Rain Water Pipes				-
13	17.35	Providing and fixing soil, waste and vent pipes:				-
13.1	17.35.1	100 mm dia				-
a	17.35.1.3	Hubless centrifugally cast (spun) iron pipes epoxy Coated inside & outside IS:15905	1421.00	Each	925.55	13,15,207
14	17.37	Providing and fixing M.S. holder-bat clamps of approved design to Sand Cast iron/cast iron (spun) pipe embedded in and including cement concrete blocks 10x10x10 cm of 1:2:4 mix (1 cement : 2 coarse sand : 4 graded stone aggregate 20 mm nominal size), including cost of cutting holes and making good the walls etc.				-
14.1	17.37.1	For 100 mm dia pipe	404.00	Each	167.35	67,609
15	17.38	Providing and fixing bend of required degree with access door, insertion rubber washer 3 mm thick, bolts and nuts complete.				-
15.1	17.38.1	100 mm dia				-
a	17.38.1.3	Hubless centrifugally cast (spun) iron pipes epoxy Coated inside & outside IS:15905	198.00	Each	489.45	96,911
16	17.39	Providing and fixing plain bend of required degree.				-
16.1	17.39.1	100 mm dia				-
a	17.39.1.3	Hubless centrifugally cast (spun) iron pipes epoxy Coated inside & outside IS:15905	268.00	Each	307.10	82,303

17	17.42	Providing and fixing double equal plain junction of required degree.				-
17.1	17.42.1	100x100x100x100 mm				-
a	17.42.1.3	Hubless centrifugally cast (spun) iron pipes epoxy Coated inside & outside IS:15905	5.00	Meter	645.10	3,226
18	17.44.	Providing and fixing single equal plain junction of required degree:				-
18.1	17.44.1	100x100x100 mm				-
a	17.44.1.3	Hubless centrifugally cast (spun) iron pipes epoxy Coated inside & outside IS:15905	242.00	Metre	503.40	1,21,823
19	17.56	Providing and fixing terminal guard:				-
19.1	17.56.1	100 mm				-
a	17.56.1.3	Hubless centrifugally cast (spun) iron pipes epoxy Coated inside & outside IS:15905	40.00	Each	355.85	14,234
20	17.57A	Providing and fixing shielded coupling for Hubless centrifugally cast-iron pipe				-
20.1	17.57A.1	100 mm				-
a	17.57A.1.1	SS 304 grade coupling with EPDM rubber gasket	1883.00	Each	360.50	6,78,822
21	17.6	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:				-
21.1	17.60.1	100 mm inlet and 100 mm outlet				-
a	17.60.1.3	Hubless centrifugally cast (spun) iron pipes epoxy Coated inside & outside IS:15905	225.00	Each	677.60	1,52,460
22	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.				-
22.1	12.41.2	110 mm diameter	184.00	Meter	236.35	43,488

23	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.				-
23.1	12.42.2	Single pushfit Coupler				-
a	12.42.2.2	110 mm	56.00	Each	94.55	5,295
23.2	12.42.3	Single tee with door				-
a	12.42.3.2	110x110x110 mm	210.00	Each	181.55	38,126
23.3	12.42.6	Shoe (Plain)				-
a	12.42.6.2	110 mm Shoe	12.00	Each	98.00	1,176
24	18.10.4	Providing and fixing G.I. pipes complete with G.I. fittings and clamps, i/c cutting and making good the walls etc.				-
24.1	18.10.4	32 mm dia nominal bore	188.00	Each	308.35	57,970
24.2	18.10.5	40 mm dia nominal bore	26.00	Each	394.15	10,248
24.3	18.10.6	50 mm dia nominal bore	58.00	Each	472.40	27,399
25	12.22	Making khurras 45x45 cm with average minimum thickness of 5 cm cement concrete 1:2:4 (1 cement : 2 coarse sand : 4 graded stone aggregate of 20 mm nominal size) over P.V.C. sheet 1 m x1 m x 400 micron, finished with 12 mm cement plaster 1:3 (1 cement : 3 coarse sand) and a coat of neat cement, rounding the edges and making and finishing the outlet complete.	12.00	Each	187.60	2,251
26	12.43	Providing and fixing unplasticised -PVC pipe clips of approved design to unplasticised - PVC rain water pipes by means of 50x50x50 mm hard wood plugs, screwed with M.S. screws of required length, including cutting brick work and fixing in cement mortar 1:4 (1 cement: 4 coarse sand) and making good the wall etc. complete.				-
26.1	12.43.2	110 mm	108.00	Each	181.40	19,591
27	12.44	Providing and fixing to the inlet mouth of rain water pipe cast iron grating 15 cm diameter and weighing not less than 440 grams.	12.00	Each	40.90	491
Total of Soil, Waste, Vent or Rain Water						27,38,628

A3		Water Supply				
		(Contractor should make nipples from same class of pipe; Readymade nipples will not be allowed)				
28	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.				-
28.1	18.8.2	20 mm nominal bore	1575.00	Meter	284.85	4,48,639
28.2	18.8.3	25 mm nominal bore	82.00	Meter	333.60	27,355
28.3	18.8.4	32 mm nominal bore	40.00	Meter	412.90	16,516
29	18.7	Providing and fixing Chlorinated Polyvinyl Chloride (CPVC) pipes, having thermal stability for hot & cold-water supply, including all CPVC plain & brass threaded fittings, including fixing the pipe with clamps at 1.00 m spacing. This includes jointing of pipes & fittings with one step CPVC solvent cement and testing of joints complete as per direction of Engineer in Charge.				-
		Internal work - Exposed on wall				-
29.1	18.7.2	20 mm nominal bore	543.00	Meter	179.95	97,713
29.2	18.7.4	32 mm nominal bore	136.00	Meter	289.05	39,311
29.3	18.7.5	40 mm nominal bore	131.00	Meter	385.50	50,501
29.4	18.7.6	50 mm nominal bore	34.00	Meter	548.55	18,651
30	18.1	Providing and fixing G.I. pipes complete with G.I. fittings and clamps, i/c cutting and making good the walls etc.				-
		Internal work - Exposed on wall				-
30.1	18.10.2	20mm dia nominal bore	109.00	Meter	224.15	24,432
30.2	18.10.3	25mm dia nominal bore	131.00	Meter	247.85	32,468

30.3	18.10.4	32mm dia nominal bore	57.00	Meter	308.35	17,576
30.4	18.10.5	40mm dia nominal bore	8.00	Meter	394.15	3,153
30.5	18.10.6	50mm dia nominal bore	262.00	Meter	472.40	1,23,769
31	18.17	Providing and fixing gun metal gate valve with C.I. wheel of approved quality (screwed end):				-
31.1	18.17.1A	20 mm nominal bore	276.00	Each	396.55	1,09,448
31.2	18.17.1	25 mm nominal bore	70.00	Each	428.20	29,974
31.3	18.17.2	32 mm nominal bore	22.00	Each	500.75	11,017
31.4	18.17.3	40 mm dia nominal bore	14.00	Each	584.70	8,186
31.5	18.17.4	50 mm dia nominal bore	6.00	Each	749.90	4,499
31.6	18.17.5	65 mm dia nominal bore	3.00	Each	1,286.80	3,860
31.7	18.17.6	80 mm dia nominal bore	1.00	Each	1,919.50	1,920
32	18.18	Providing and fixing ball valve (brass) of approved quality, High or low pressure, with plastic floats complete:				-
32.1	18.18.2	20 mm nominal bore	2.00	Each	327.05	654
32.2	18.18.3	25 mm nominal bore	2.00	Each	331.95	664
33	18.2	Providing and fixing brass ferrule with C.I. mouth cover including boring and tapping the main:				-
33.1	18.20.2	20 mm nominal bore	2.00	Each	280.65	561
33.2	18.20.3	25 mm nominal bore	2.00	Each	363.70	727
		Total of Water Supply Items				10,71,594
	A. II. b	EXTERNAL PLUMBING WORK				
B1		EXTERNAL SEWERAGE / DRAINAGE WORK				
1	2.10	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 Kind of Soil				

1.1	2.10.1.1	Pipes, cables etc, not exceeding 80 mm dia.	100.00	Mtr	138.05	13,805
1.2	2.10.1.2	Pipes, cables etc. exceeding 80 mm dia. but not exceeding 300 mm dia.	3110.30	Meter	225.45	7,01,217
1.3	2.10.1.3	Pipes, cables etc. exceeding 300 mm dia but not exceeding 600 mm	1358.00	Meter	352.00	4,78,016
2	2.11	Extra for excavating trenches for pipes, cables, etc. in all kind of soil exceeding 1.5 m in depth but not exceeding 3 m. (Rate is over corresponding basic item for depth upto 1.5 metre).				-
2.1	2.11	Pipes, cables etc. exceeding 80 mm dia. but not exceeding 300 mm dia.	10.00	Metre	286.00	2,860
2.2	2.11	Pipes, cables etc. exceeding 300 mm dia but not exceeding 600 mm	1103.00	Meter	447.00	4,93,041
3	2.12	Extra for excavating trenches for pipes, cables, etc, in all kinds of soil for depth exceeding 3 m in depth, but not exceeding 4.5 m. (Rate is over corresponding basic item for depth upto 1.5 metre.)				-
		Pipes, cables etc. exceeding 80 mm dia. but not exceeding 300 mm dia.	10.00	Metre	435.00	4,350
		Pipes, cables etc. exceeding 300 mm dia but not exceeding 600 mm	201.00	Metre	1,109.00	2,22,909
4	2.7	Earth work in excavation by mechanical means (Hydraulic excavator) / manual means over areas (exceeding 30cm in depth. 1.5 m in width as well as 10 sqm on plan) including disposal of excavated earth, lead upto 50m and lift upto 1.5m, disposed earth to be levelled and neatly dressed.				-
4.1	2.7.1	Ordinary rock	128.00	cum	221.05	28,294
5	19.16	Providing orange colour safety foot rest of minimum 6 mm thick plastic encapsulated as per IS : 10910 on 12mm dia steel bar conforming to IS : 1786 having minimum cross section as 23 mmx25mm and over all minimum length 263 mm and width as 165mm with minimum 112 mm space between protruded legs having 2 mm tread	1737.00	Each	327.90	5,69,562

		on top surface by ribbing or chequering besides necessary and adequate anchoring projections on tail length on 138 mm as per standard drawing and suitable to with stand the bend test and chemical resistance test as per specifications and having manufacture's permanent identification mark to be visible even after fixing, including fixing in manholes with 30x20x15 cm cement concrete block 1:3:6 (1 cement : 3 coarse sand : 6 graded stone aggregate 20 mm nominal size) complete as per design.				
6	19.7	Constructing brick masonry manhole in cement mortar 1:4 (1 cement : 4 coarse sand) with R.C.C. top slab with 1:2:4 mix (1 cement : 2 coarse sand : 4 graded stone aggregate 20 mm nominal size), foundation concrete 1:4:8 mix (1 cement : 4 coarse sand : 8 graded stone aggregate 40 mm nominal size), inside plastering 12 mm thick with cement mortar 1:3 (1 cement : 3 coarse sand) finished with floating coat of neat cement and making channels in cement concrete 1:2:4 (1 cement : 2 coarse sand : 4 graded stone aggregate 20 mm nominal size) finished with a floating coat of neat cement complete as per standard design				-
	19.7.1	Inside size 90x80 cm and 45 cm deep including C.I. cover with frame (light duty) 455x610 mm internal dimensions, total weight of cover and frame to be not less than 38 kg (weight of cover 23 kg and weight of frame 15 kg) :				-
	19.7.1.1	With common burnt clay F.P.S. (non modular) bricks of class designation 7.5	31.00	Each	8,634.10	2,67,657
7	19.8	Extra for depth for manholes:				-
	19.8.1	Size 90x80 cm				-
	19.8.1.1	With common burnt clay F.P.S. (non modular) bricks of class designation 7.5	6.52	metre	5,718.60	37,285
8	19.9	Constructing brick masonry circular type manhole 0.91 m internal dia at bottom and 0.56m dia at top in cement mortar 1:4 (1				-

		cement : 4 coarse sand), inside cement plaster 12 mm thick with cement mortar 1:3 (1 cement : 3 coarse sand) finished with a floating coat of neat cement, foundation concrete 1:3:6 mix (1 cement : 3 coarse sand : 6 graded stone aggregate 40 mm nominal size), and making necessary channel in cement concrete 1:2:4 (1 cement : 2 coarse sand : 4 graded stone aggregate 20 mm nominal size) finished with a floating coat of neat cement, all complete as per standard design :				
8.1	19.9.1	0.91 m deep with SFRC cover and frame (heavy duty, HD- 20 grade designation) 560 mm internal diameter conforming to I.S. 12592, total weight of cover and frame to be not less than 182 kg., fixed in cement concrete 1:2:4 (1 cement : 2 coarse sand : 4 graded stone aggregate 20 mm nominal size) including centering, shuttering all complete. (Excavation, foot rests and 12mm thick cement plaster at the external surface shall be paid for separately) :				-
8.2	19.9.1.1	With common burnt clay F.P.S. (non modular) bricks of class designation 7.5	42.00	Each	8,683.75	3,64,718
9	19.10	Extra depth for circular type manhole 0.91m internal dia (at bottom) beyond 0.91 m to 1.67 m				-
	19.10.1	With common burnt clay F.P.S. (non modular) bricks of class designation 7.5	13.54	metre	4,911.80	66,481
10	19.11	Constructing brick masonry circular manhole 1.22 m internal dia at bottom and 0.56 m dia at top in cement mortar 1:4 (1 cement :4 coarse sand) inside cement plaster 12 mm thick with cement mortar 1:3 (1 cement : 3 coarse sand) finished with a floating coat of neat cement foundation concrete 1:3:6 (1 cement : 3 coarse sand : 6 graded stone aggregate 40 mm nominal size) and making necessary channel in cement concrete 1:2:4 (1 cement : 2 coarse sand : 4 graded stone aggregate 20 mm nominal size) finished with a floating coat of neat cement, all complete as per standard design :				-

	19.11.1	1.68 m deep with SFRC Cover and frame (heavy duty HD- 20 grade designation) 560 mm internal diameter conforming to I.S. 12592, total weight of cover and frame to be not less than 182 kg. fixed in cement concrete 1:2:4 (1 cement: 2 coarse sand: 4 graded stone aggregate 20 mm nominal size) including centering, shuttering all complete. (Excavation, foot rests and 12 mm thick cement plaster at the external surface shall be paid for separately):				-
	19.11.1.1	With common burnt clay F.P.S. (non modular) bricks of class designation 7.5	5.00	each	16,560.80	82,804
11	19.12	Extra depth for circular type manhole 1.22 m internal dia (at bottom) beyond 1.68 m to 2.29 m:				-
	19.12.1	With common burnt clay F.P.S. (non modular) bricks of class designation 7.5	1.00	metre	6,362.65	6,363
12	19.13	Constructing brick masonry circular manhole 1.52 m internal dia at bottom and 0.56 m dia at top in cement mortar 1:4 (1 cement : 4 coarse sand) inside cement plaster 12 mm thick with cement mortar 1:3 (1 cement : 3 coarse sand) finished with a floating coat of neat cement, foundation concrete 1:3:6 (1 cement : 3 coarse sand : 6 graded stone aggregate 40 mm nominal size) and making necessary channel in cement concrete 1:2:4 (1 cement : 2 coarse sand : 4 graded stone aggregate 20 mm nominal size) finished with a floating coat of neat cement, all complete as per standard design :				-
	19.13.1	2.30 m deep with SFRC Cover and frame (heavy duty HD- 20 grade designation) 560 mm internal diameter conforming to I.S. 12592, total weight of cover and frame to be not less than 182 kg. fixed in cement concrete 1:2:4 (1 cement: 2 coarse sand: 4 graded stone aggregate 20 mm nominal size) including centering, shuttering all complete. (Excavation, foot rests and 12 mm thick cement plaster at the external surface shall be paid for separately):				-
	19.13.1.1	With common burnt clay F.P.S. (non modular) bricks of class designation 7.5	20.00	each	35,380.05	7,07,601

13	19.14	Extra depth for circular type manhole 1.52 m internal dia (at bottom) beyond 2.30 m:				-
	19.14.1	With common burnt clay F.P.S. (non modular) bricks of class designation 7.5	12.05	metre	15,028.55	1,81,079
14	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:				-
14.1	19.6.2	150 mm dia. R.C.C. pipe	250.00	Metre	356.70	89,175
14.2	19.6.3	250 mm dia. R.C.C. pipe	684.50	Metre	482.05	3,29,963
14.3	19.6.4	300 mm dia. R.C.C. pipe	772.00	Metre	518.55	4,00,321
14.4	19.6.5	450 mm dia. R.C.C. pipe	93.00	Metre	720.95	67,048
14.5	19.6.6	500 mm dia. R.C.C. pipe	11.40	Metre	950.30	10,833
14.6	19.6.7	600 mm dia. R.C.C. pipe	10.00	Metre	1,397.10	13,971
14.7	19.6.8	700 mm dia. R.C.C. pipe	10.00	Metre	1,582.85	15,829
14.8	19.6.9	800 mm dia. R.C.C. pipe	77.00	Metre	1,770.85	1,36,355
14.9	19.6.10	900 mm dia. R.C.C. pipe	111.50	Metre	1,988.95	2,21,768
14.10	19.6.11	1000 mm dia. R.C.C. pipe	100.00	Metre	2,465.50	2,46,550
14.11	19.6.12	1100 mm dia. R.C.C. pipe	50.00	Metre	2,911.55	1,45,578
14.12	19.6.13	1200 mm dia. R.C.C. pipe	193.00	Metre	2,828.15	5,45,833
15	19.3	Providing and laying cement concrete 1:5:10 (1 cement: 5 coarse sand: 10 graded stone aggregate 40 mm nominal size) up to haunches of R.C.C. pipes including bed concrete as per standard design:				-
15.1	19.3.2	150 mm dia. R.C.C. pipe	250.00	Metre	479.85	1,19,963
	19.3.4	250 mm dia. R.C.C. pipe	684.50	Metre	656.60	4,49,443
	19.3.5	300 mm dia. R.C.C. pipe	772.50	Metre	757.60	5,85,246
	19.3.4	450 mm dia. R.C.C. pipe	10.00	Metre	1,392.70	13,927
16	19.27	Constructing brick masonry road gully chamber 50x45x60 cm with bricks in cement mortar 1:4 (1 cement: 4 coarse sand) including 500x450 mm pre-cast R.C.C. horizontal grating with frame complete as per standard design:				-

16.1	19.27.1	With common burnt clay F.P.S. (non modular) bricks of class designation 7.5	20.00	Each	4,043.10	80,862
		TOTAL (NON-DSR ITEMS) C/F TO SUMMARY				77,00,707
B3		EXTERNAL WATER SUPPLY WORK				
1.		Exacavating 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 exacavated soil, and then returning the soil as required, in layers not exceeding 20cm in depth including consolidating each deposited layer by ramming, watering, etc. and disposing of surplus excavated soil as directed within a lead of 50mtr.				
		All kinds of soil				
2	18.12	Providing and fixing G.I. pipes complete with G.I. fittings including, trenching and refilling etc.				-
		external works				-
a.	18.12.3	25 mm dia nominal bore	88.00	metre	205.85	18,115
b.	18.12.4	32 mm dia nominal bore	46.00	metre	247.40	11,380
c.	18.12.5	40 mm dia nominal bore	53.00	metre	301.05	15,956
d.	18.12.6	50 mm dia nominal bore	661.00	metre	342.70	2,26,525
e.	18.12.7	65 mm dia nominal bore	354.00	metre	451.70	1,59,902
f.	18.12.8	80 mm dia nominal bore	R.O	metre	576.30	
3	18.4	Painting G.I. pipes and fittings with two coats of anti-corrosive bitumastic paint of approved quality:				-
a.	18.40.3	25 mm dia nominal bore	88.00	metre	9.10	801
b.	18.40.4	32 mm dia nominal bore	46.00	metre	10.85	499
c.	18.40.5	40 mm dia nominal bore	53.00	metre	12.35	655
d.	18.40.6	50 mm dia nominal bore	661.00	metre	14.80	9,783
e.	18.40.7	65 mm dia nominal bore	354.00	metre	18.25	6,461
f.	18.40.8	80 mm dia nominal bore	10.00	metre	21.20	212

4	18.41	Providing and filling sand of grading zone V or coarser grade all-round the G.I. pipes in external work.				-
a.	18.41.3	25 mm dia nominal bore	88.00	metre	69.50	6,116
b.	18.41.4	32 mm dia nominal bore	46.00	metre	71.30	3,280
c.	18.41.5	40 mm dia nominal bore	53.00	metre	72.25	3,829
d.	18.41.6	50 mm dia nominal bore	661.00	metre	74.95	49,542
e.	18.41.7	65 mm dia nominal bore	354.00	metre	118.30	41,878
f.	18.41.8	80 mm dia nominal bore	10.00	metre	121.90	1,219
5	18.31	Providing and fixing CI sluice valve (with cap) complete with bolts, nuts, rubber insertions etc. (the tail pieces if required will be paid separately)				-
a.	18.31.1.2	100 mm dia (Class-II)	2.00	Each	3,689.75	7,380
b.	18.31.3.2	150 mm dia (Class-II)	1.00	Each	5,387.20	5,387
6	18.17	Providing and fixing gun metal gate valve with C.I. wheel of approved quality				-
		(screwed end):				-
a.	18.17.1	25mm nominal bore	19.00	Each	428.20	8,136
b.	18.17.2	32mm nominal bore	5.00	Each	500.75	2,504
c.	18.17.3	40mm nominal bore	4.00	Each	584.70	2,339
d.	18.17.4	50mm nominal bore	4.00	Each	749.90	3,000
e.	18.17.5	65 mm nominal bore	3.00	Each	1,286.80	3,860
7	18.33	Constructing masonry Chamber 60x60x75 cm inside, in brick work in cement mortar 1:4 (1 cement : 4 coarse sand) for sluice valve, with C.I. surface box 100mm top diameter, 160 mm bottom diameter and 180 mm deep (inside) with chained lid and RCC top slab 1:2:4 mix (1 cement : 2 coarse sand : 4 graded stone aggregate 20mm nominal size) , i/c necessary excavation, foundation concrete 1:5:10 (1 cement : 5 fine sand : 10 graded stone aggregate 40 mm nominal size) and inside plastering with cement mortar 1:3 (1 cement : 3 coarse sand) 12 mm thick, finished with a floating coat of neat cement complete as per standard design :				-
7.1	18.33.1	With common burnt clay F.P.S. (non modular) bricks of class designation 7.5	35.00	Each	6,849.60	2,39,736

8	18.34	Constructing masonry Chamber 90x90x100 cm inside, in brick work in cement mortar 1:4 (1 cement : 4 coarse sand) for sluice valve, with C.I. surface box 100 mm top diameter, 160 mm bottom diameter and 180 mm deep (inside) with chained lid and RCC top slab 1:2:4 mix (1 cement : 2 coarse sand : 4 graded stone aggregate 20 mm nominal size), i/c necessary excavation, foundation concrete 1:5:10 (1 cement : 5 fine sand : 10 graded stone aggregate 40 mm nominal size) and inside plastering with cement mortar 1:3 (1 cement : 3 coarse sand) 12 mm thick, finished with a floating coat of neat cement complete as per standard design :				-
	18.34.1	With common burnt clay F.P.S. (non modular) bricks of class designation 7.5	1.00	Each	11,842.75	11,843
9	18.32	Constructing masonry Chamber 30x30x50 cm inside, in brick work in cement mortar 1:4 (1 cement :4 coarse sand) for stop cock, with C. I. surface box 100x100 x75 mm (inside) with hinged cover fixed in cement concrete slab 1:2:4 mix (1 cement : 2 coarse sand : 4 graded stone aggregate 20 mm nominal size), i/c necessary excavation, foundation concrete 1:5:10 (1 cement : 5 fine sand : 10 graded stone aggregate 40mm nominal size) and inside plastering with cement mortar 1:3 (1 cement : 3 coarse sand) 12mm thick, finished with a floating coat of neat cement complete as per standard design :				-
	18.32.1	With common burnt clay F.P.S. (non modular) bricks of class designation 7.5	16.00	Each	1,195.35	19,126
		Total c/f to summary (DSR Items)				8,59,461
B4		WATER SUPPLY PUMPS & EQUIPMENTS WORK				
(I)		WATER SUPPLY PUMPS & EQUIPMENTS				

10	4.4 DSR-2016	Supplying and installing following size of perforated painted with powder coating M.S. cable trays Cross Member with perforation not more than 17.5%, joined with connectors, suspended from the ceiling with M.S. suspenders including bolts & nuts, painting suspenders etc. as required.				-
a)	4.4.2	150 mm width X 50 mm depth X 1.6 mm thickness	30.00	Metre	812.00	24,360
b)	4.4.4	300 mm width X 50 mm depth X 1.6 mm thickness	45.00	Metre	1,186.00	53,370
		Total C/f To Summary				77,730
B5		RAIN WATER HARVESTING WORK				
11	23.1	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.				
	23.1.1	All types of soil				
	23.1.1.1	300 mm dia.	140.00	Meter	370.70	51,898
	23.1.2	Rocky strata including Boulders				-
	23.1.2.1	300 mm dia	210.00	Meter	855.10	1,79,571
12	23.3	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.				-
a)	23.3.3	200 mm nominal size dia.	140.00	Meter	610.65	85,491
13	23.4	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.				
a)	23.4.3	200 mm nominal size dia.	140.00	Meter	821.15	1,14,961
14	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.	14.70	cum	921.90	13,552
15	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.	14.70	cum	1,038.05	15,259
16	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.	14.70	cum	1,038.05	15,259
17	23.8	Gravel packing in tubewell construction in accordance with IS: 4097, including providing gravel fine/ medium/ coarse, in required grading & sizes as per actual requirement, all complete as per direction of Engineer-in-charge.	11.20	cum	1,175.60	13,167
18	23.15	Providing and fixing Bail plug/ Bottom plug of required dia to the bottom of pipe assembly of tubewell as per IS:2800 (part I).				-
(a)	23.15.3	200 mm dia	7.00	each	253.95	1,778
		Total of DSR Items				4,90,936
		SCHEDULED ITEMS -3 (HORTICULTURE WORK)				

1.		LANDSCAPE				
1.1	DSR (H) 2.2	Supplying and stacking of good earth at site including royalty and carriage upto 5 km complete (earth measured in stacks will be reduced by 20% for payment).	642.00	Cum	332.55	2,13,497
1.2	DSR (H) 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).	48.15	Cum	30.95	1,490
1.3	DSR 1.1	Transportation of good earth by mechanical means including loading, unloading and stacking at site as per direction of engineer-in-charge. Note: The rates will be applicable to net quantities after deduction of prescribed percentage for voids mentioned in the specification under subhead "Carriage of materials"	321.00	Cum	111.50	35,792
	DSR 1.1.2	Lead up to 2 Km				
1.4	DSR (H) 2.28	Preparation of mounds of various size and shape by available excavated / supplied earth in layers not exceeding 20 cm in depth, breaking clods, watering of each layer, dressing etc., lead upto 50 meter and lift upto 1.5 m complete as per direction of Officer-in-charge.	160.50	Cum	267.10	42,870
1.5	DSR (H) 6.1	Providing and Displaying of Alpinia Variegated (three in one) plant having ht. 30 cm and above, with fresh and healthy variegated foliage in 25 cm size of Earthen Pot / Plastic Pot & as per direction of the officer-in-charge.	50.00	Each	112.75	5,638
		0.30-0.45 Mts				
2.0		<u>SUPPLY AND INSTALL LAWN</u>				
2.1	DSR (H) 2.34	Providing & laying Selection no. 1 grass turf with earth 50mm to 60mm thickness on existing ground prepared with proper level and ramming with required tools wooden and	6420.00	Sqm	77.00	4,94,340

		than rolling the surface with light roller make the surface smoothen and light watering the same, as per direction of officer in charge				
3.0		<u>SUPPLY AND INSTALL PLANTING MEDIA</u>				
3.1	DSR (H) 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)				
a	2.14.1	Holes 1.2 m dia and 1.2 m deep	74.00	Each	236.75	17,520
b	2.14.2	Holes 90 cm dia, and 90 cm deep	70.00	Each	101.40	7,098
c	2.14.3	Holes 60 cm dia, and 60 cm deep	119.00	Each	31.15	3,707
d	2.14.4	Holes 45 cm dia, and 45 cm deep	2801.00	Each	13.40	37,533
3.2	DSR (H) 2.57	Plantation of Trees, Shrubs, and Hedge at site i/c watering and removal of unserviceable material's as per direction of officer in charge (excluding cost of plant & water)				
a	2.57.1	Trees Plant	263.00	Each	4.25	1,118
b	2.57.2	Shrubs Plant	2801.00	Each	2.15	6,022
		TOTAL OF HORTICULTURE WORKS (DSR ITEMS)				8,66,624
		TOTAL OF SCHEDULE – “A”				21,42,95,719

Explanatory Notes for BOQ:

- (i) All DSR items contain item nos. and, if any discrepancy is found in nomenclature, then scheduled nomenclature of CPWD DSR 2016 will prevail.
- (ii) The quantity mentioned in the Schedules is approximate and the DFCCIL reserves the right to increase / decrease the same as per site requirement.

Signature of Tenderer

SCHEDULED – “B” Schedule of Prices & Total Prices						
Name of Work: Construction of Heavy Haul Research Institute (HHRI) comprising of Admin & Hostel Block and General Lab including related allied facilities at Sector – 145, Noida						
S. No.	Item No.	Description of Items	QTY.	UNIT	RATE (Rs.)	AMOUNT (Rs.)
SCHEDULED ‘B’ - (Non-Scheduled Items other than CPWD DSR -2016)						
	II.	NON-SCHEDULED ITEMS -1 (CIVIL WORK)				
13.1	NS	Foam concrete filling in sunken portion of WC & Kitchen with approved quality of foam concrete including supply of labour, material and T&P etc. required for proper completion of the work as per direction of Engineer-in-charge.	134.08	Cum	5,204.00	6,97,761
13.2	NS	Supplying, laying and fixing of std. chicken wire mesh IRCS-6 (6 x 6 x 6/6) in positions at junctions of concrete & masonry works etc with nails/neat cement. all complete as per specification, drawing and instructions of enginner in charge.	6006.38	Sqm	32.00	1,92,204
13.3	NS	Providing and fixing 50mm thick HDPE grass paver as per approved sample and design as per drawing laid over 50mm thick compacted sand base and siglle layer of WBM including filling of the joints with sweet earth, cutting edge pavers with cutter to required shape,size and pattern and setting with vibration complete in all respects as per manufacturers specification.(The payment of WBM shall be made for seperately) (Basic Rate=Rs.50per Sqft.)	625.00	Sqm.	789.00	4,93,125
13.4	NS	Providing and laying 50 mm thick pre polished granite stone in coping over 20mm (average) thick base of cement 1:4 (1 cement : 4 coarse sand) laid as per pattern,butt jointed, with a joint width of not more than 4mm, in cement mortar 1 : 2 (1 grey cement : 2 stone dust) mixed with pigment to match the shade of stone slab complete. (Base rate of Polished Granite- Rs250/Sft)	373.10	Sqm	4,179.00	15,59,185

Signature of Tenderer

13.5	NS	Providing and fixing 18mm thick pre polished granite stone wall cladding upto 12m height, in required design and pattern wherever required, on 12 mm (average) thick cement mortar 1:3 (1 cement : 3 coarse sand) laid and jointed with cement slurry @ 3.3 kg/sqm including pointing with white cement slurry admixed with pigment of matching shade, including curing, to be secured to the backing and the sides by means of SS cramps and pins all complete as per Architectural drawings, details, and as directed by the Engineer-in-Charge. (Base Rate polished granite Rs140/- per sft)	312.30	Sqm	5,124.00	16,00,225
13.6	NS	Providing and fixing Rebar with Epoxy resin and hardener of FIS EM or Hilti or approved equivalent make. The Chemical should have working life of 50 years. Drilling Hole with suitable drill bit to the specified depth through a rotary hammer, cleaning with brush and jet of clean air, filling resin and hardener using a static mixer to ensure proper mixing of the chemical. Use of Piston plugs and extension hose for longer embedment depths to ensure proper injection of the chemical without air bubble and then fixing the rebar. Conducting occasional site inspection, executing work by trained personnel and occasional supervision from the Manufacturer's representative in India. The Installation and setting instructions should be strictly followed as per the Manufacturers recommendation.				
a)		16 mm dia	170.00	Nos	649.00	1,10,330
b)		20 mm dia	160.00	Nos	936.00	1,49,760
c)		25 mm dia	160.00	Nos	1,988.00	3,18,080

13.7	NS	Providing and fixing Rebar with super bond resin and hardener of FIS SB or Hilti or approved equivalent make. The Chemical should have working life of 50 years. Drilling Hole with suitable drill bit to the specified depth through a rotary hammer, cleaning with brush and jet of clean air, filling resin and hardener using a static mixer to ensure proper mixing of the chemical. Use of Piston plugs and extension hose for longer embedment depths to ensure proper injection of the chemical without air bubble and then fixing the rebar. Conducting occasional site inspection, executing work by trained personnel and occasional supervision from the Manufacturer's representative in India. The Installation and setting instructions should be strictly followed as per the Manufacturers recommendation.				
a)		8 mm dia	30.00	Nos	144.00	4,320
b)		10 mm dia	30.00	Nos	210.00	6,300
c)		12 mm dia	30.00	Nos	264.00	7,920
d)		16 mm dia	30.00	Nos	450.00	13,500
13.8	NS	Cutting Reinforced concrete (RCC) with mechanised tools like Core drilling machine etc. for cutting holes, cores in slab, beam, column, wall, D-wall or foundation as per direction of engineer in charge. Item includes for cutting of reinforcement bars.				
I		upto 300mm depth				
a		100 MMDia.	10.00	NOS.	350.00	3,500
b		150 MMDia	10.00	NOS.	500.00	5,000
c		200 MMDia	10.00	NOS.	650.00	6,500
d		300 MM Dia	5.00	NOS.	1,200.00	6,000
13.9	NS	Providing and fixing 200 mm dia M.S. C-class pipe sleeve as per detail drawing including painting with epoxy paint	20.00	Each	5,500.00	1,10,000
13.10	NS	Providing and fixing 100 mm dia M.S. C-class vent pipe as per detail drawing including painting with epoxy paint up to 2'-6" Ht.	20.00	Each	4,800.00	96,000
13.1	NS	Providing and fixing 1000 x 550 mm M.S.	11.00	Each	3,000.00	33,000

1		frame and cover for manhole with MS angle frame and cover with M.S. sheet as per detail drawing including epoxy paint.				
13.1 2	NS	VISION GLASS PANELS (24mm IGU)	-			
		Providing, assembling, packing & supplying of vision glass panels (IGUs) comprising of hermetically-sealed 6-12- 6 mm (24mm IGU THK.)insulated glass (double glazed unit) vision panel units of size and shape as required and specified,comprising of an outer heat strengthened float glass 6mm thick, of approved colour and shade with reflective soft coating on surface #2 of approved colour and shade, an inner Heat strengthned clear float glass 6mm thick, spacer tube 12mm wide, dessicants, including primary seal and secondary seal (structural silicone sealant) etc.all complete for the required performances and the Architectural drawings, as per the approved shop drawings, as specified and as directed by the Engineer-in-Charge.The IGUs shall be assembled in the factory/ workshop of the glass processor.	-			
		(For payment, only the actual area of glass on face # 1 of the glass panels (excluding the areas of the grooves and weather silicone sealant) provided and fixed in position, shall be measured in sqm.				
		Glass of approved make having properties (Aqua Green/ Aqua Marine colour as per approved sample from Saint Gobain, pilkington, Asahi Glass or equivalent) are	-			
		(I) visible Light transmittance (VLT) of More than 40%	-			
		(II) SF/Solar Heat Gain Coefficient Less than or equal to 0.27	-			
		(III) U value of Less than or equal to 1.6 W/m2 degree K	-			
		Note: - The properties of performance glass shall be decided by technical sanctioning authority as per the site and green building requirement.	974.94	Sqmt	3,844.00	37,47,686

13.1 3	NS	<p>Providing and fixing Glass Reinforced Concrete (G.R.C) Screens in approved size, pattern, design, shade and thickness of 50mm on frame and design element in 30mm thick casted with power spray method have weight approximately between 3.5 – 4 Kg per Sq. Ft. The screens should be made from '53 grade' White Portland Cement, Quartz, Fine Silica Sand, having Alkali Resistant Glass Fiber percentage 3.5-4% with minimum zirconia content 16%, Super Plasticizers, Polymers and U.V resistant non fading Synthetic inorganic exterior grade pigments should be used for homogeneous concrete pigmentation. The material casting should take place in FRP Moulds. The GRC screens flexural strength average L.O.P should be above or equivalent to 6N/mm2 & Modulus of Rupture should be above or equivalent to 15 N/mm2 .The fixing of Screens should be 'Dry fixing' i.e. to be done with M.S Galvanized Clamps, or S.S. -304 clamps, fixtures and fasteners of Hilti / Fischer or self - tapping screws or as per approved shop drawings approved by Architects/ consultants,including scaffoldings required etc. complete by specilized vender in strict supersion as per direction of engineer. (NOTE- MS base frame required to support GRC panel to be paid for in separte head .)</p>	100.00	Sqmt	4,693.00	4,69,300
13.1 4	NS	<p>Partition with Double layer of Gypsum Board on Both side (100 mm thick Partition - Standard Board) including paint and Rockwool Insulation : Providing & fixing 100 mm thick partition includes as follows; Metal System: Providing and fixing metal system up to true ceiling height, which includes frame work made of special section power pressed/ roll form G.I. sheet with zinc coating of 120 GSM, consisting of U track 52mm wide having equal flanges of 30mm and 0.55mm thick (Base metal thickness) fastened to the floor slab and ceiling soffit using rawl plugs with screw/expansion fasteners at 600mm centers, with first & last fixing point at not greater than 50 mm from either end.</p>				

		<p>C studs 50mm wide having one flange of 34mm, other flange 36mm, lip size 6 mm and 0.55mm thick installed perpendicularly within the flanges of floor and ceiling channels located directly opposite to each other at not more than 610mm centers. Maintain 5 to 10mm gap between C Stud and web of U Track. The unit rate all includes Resin Bonded Rockwool conforming to IS: 8183, density 48 kg/ m³, 50 mm thick, fix with help of Insulation hold strip. Insulation hold strip 150mm down from top of partition and at 1220mm vertical centers down the partition & to be fixed one side of metal C stud.</p>				
		<p>Plasterboard and finishing: Internal layer having 1x 12 mm thick MDF board cladding on both side of frame work & outer finishing layer would be 1 x 12.5 mm Standard board (conforming to IS 2095 Part1 1996; BS 1230: Part1: 1985 for Gypsum Board Type 1 & BS EN 520: 2004 Type A) is screw fixed to metal system on both sides using “type S” Self tapping 3.5 x 25mm/38mm corrosion resistant drywall screws spaced at 200mm centers on all joints and 300mm centers in the field of boards. Screw fixing is done mechanically. Install Flat Strap 90mm x 0.55mm behind horizontal board joints: Finally square and tapered edges of the boards are to be jointed and finished so as to have a flush look which includes filling and finishing with three layer of Gypsum based jointing compound and joint paper tape suitable for Gypsum Board & also includes plastic emulsion paint on both side of partition walls wherever advised . The surface shall be thoroughly cleaned and prepared by scraping away loose particle, dust etc by washing & scrubbing & two coat of primer applied. The wall surface is then smoothened using chalk putty as directed. Surfaces are then sandpapered to achieve as smooth finish & 3 or more coats of plastic paint are applied as directed. (Note: - Quoted cost include concealed wooden framework required for services work such as for</p>				

		electrcial & hvac work & 12 mm thick ply at bottom to fix skirting & cladding area where CBG/ Fabric cladding comes as per drawing)				
i)	NS	Partition Above glass partition with double layer of gypsum on both sides:	84.47	Sqm	1,884.00	1,59,134
ii)	NS	Partition Above false ceiling with single layer of gypsum on both sides: same as above but using of single layer of gypsum board on both side of frame work without compounding but inclusive of rockwool insulation.	69.11	Sqm	1,431.00	98,895
13.1 5	NS	Providing, supply and apply (1+5mm) an environmental friendly low VOC (Based on USEPA Methad 24 Section 11.2.2 & ASTM D2369-98), HACCP Approved, chemical rersistant antimicrobial polyurethane self smoothing flooring system incorporates with Polygiene®- a performance based antimicrobial which inhibits the growth of bacteria, fungi, moulds and mildew; consist of 'Scratch coat in 1 MM' and 'topping in 5 MM'; apply in accordance with the manufacturer's instructions and recommendations having following technical specifications Fire Resistance BS476:Part 7, Surface Spread of Flame:Class 2 (indicative) Slip Resistance:TRRL Pendulum Slip Test, Dry 70 Wet 25 Impact Resistance, BS8204 Part1 Cat: A (<0.5mm) ISO6272 1kg weight >1.8m, 2kg weight >1.5m Temperature Resistance, From - 5oC to 70oC (at 3mm) -15 degree Cent. to 90-degree Cent. (at 4mm), Coefficient of Thermal Expansion ASTM C531: 5.70 x 10-5 oC-1, Water Permeability, Nil-Karsten test (impermeable), Vapour Permeability, ASTM E96:90 5g/m/24hrs (at 4mm thick), Chemical Resistance Abrasion Resistance Taber Abrader:0.1g loss per 1000 cycles (1kg load using CS17 wheels) Compressive Strength >55 N/mm2 (BS6319), Flexural Strength >20 N/mm2 (BS6319) Tensile Strength >12 N/mm2 (BS6319)Bond Strength Greater than cohesive strength of 25 N/mm2 concrete. >1.5 MPa. Manufacturer to give five-year warranty for the Industrial flooring				
i)		Heavy Duty Flooring - 6MM Flooring System (PU)	1860.00	Sqm	2,787.60	51,84,936

13.1 6	NS	Providing and fixing signage and graphics work as per drawing				
a	NS	Admin Block CNC engraved lettering & graphic colour filled (text style, colour, finishes as per technical specifications) 1mm SS plate Size (300 mmx 100mm) SS screws icon (as per standard)	135.00		769.38	1,03,866
b	NS	Hostel Room Number 25mm upper case letter 1mm SS plate (300 x 100mm)	104.00		769.38	80,016
c	NS	Metal Sign Name cut in SS brush 3D letter (SS304) of text height 300 and 1" font to be cut to sizes and directly installed on available base with approved SS fixtures, including necessary hardware as specified and directed by Engineer-in-charge	45.00		1,602.87	72,129
d	NS	Various directional signages of EXIT and washroom identification with proper fixtures for installation Size 20" x 9"	54.00		2,404.31	1,29,833
e	NS	Reception Signs Providing and fixing logo with making of Acrylic Finish 3D cut 300 mm wide and height according to the proportion of the logo Reception backdrop signage as per design	1.00		40,071.75	40,072
f	NS	Totem Signs Signage made of Aluminium frame work, clad with 3mm Aluminium composite panel of Alstone make. Duly routed & cut by CNC router. With letters of 10mm thickness Acrylite make casted clear acrylic laser cut fitted to 3mm 040 cast acrylic on back with plotter cut vinyl on top. Backlit uniform illumination of the signboard achieved by using IP68 rated LED having individual current regulator for each signage board complete with all internal wiring, connectors etc with suitable hardware back close with ACP Size 5ft x 2ft	4.00		40,071.75	1,60,287
g	NS	Floor directories Signage modular frame technology of various widths & lengths to form suggested uages made of aluminium extruded sections	6.00		13,848.80	83,093

		duly anodised all signage provided with 0.6mm polycarbonate protecting film over the prints of appropriate size Size 2ft x 3ft				
						-
13.1 7A	NS	Glass Wool Roof Panel (50mm)				
		Providing and fixing The Roof shall be constructed of 50mm+30mm thick GLASSWOOL insulated panels having 48+2 Kg/m3 density lined with top covering of trapezoidal pre coated GI sheet with 30±1mm,crest width 24±1mm and pitch 200±1mm & bottom covering on roof panels shall be micro ribbing Pre-coated galvanized iron sheet made by lamella Technology. Cost to include scaffolding, hydra as per requirement	2000.00	Sqm	2,369.63	47,39,268
13.1 7B	NS	Providing and fixing Polycarbonate sheet of 2 mm thick for lighting purpose on above item (Item No. 13.17A Glasswool Panel)	175.00	Sqm	1,754.04	3,06,957
						-
13.1 8	NS	EOT CRANE OF 50 TON. CAPACITY				
		Design Manufacturing and Supply of 50t. Cap. Double Girder EOT crane having 31.5 to 32.5 meters span and 7 to 8-meter height of lift floor operated with pendent push button type (Class-II, Medium Duty)				
		L.T. Aluminum DSL Bus Bar PVC Insulated with current collectors 250 amp 4 bars – R.Y.B with its accessories: 60 Rm				
		Supply and fitting of Gantry Girders are considered as under: a. For Gantry Girders (Column to column distance 4.165 meters): from ISMB 600x210 + 90 lbs Rail line (both side). Section weight of Girder @ 170 kg/rm: 14501 kg. b. For Gantry Girders (Column to Column Distance 8.675 meters): from Plate Fabricated Box 900x350 mm having plate size 10/16 mm + 120 lbs Rail line (both side). Section weight of Girder @ 310 kg/rm: 10757 kg				

		The product must be tested at 125% safe working load as per IS: 3938. Test Certificates will be submitted by the contractor				
		<i>The above work should be carried out according to the drawing & Technical specifications attached. Contractor will need to be submitted GA drawing prior to start of work for approval from PMC/Architects/Client</i>	1.00	Job	1,06,80,375	1,06,80,375
13.1 9	NS	Supply, fabricating and fixing of mild steel embedments, embedment in shear wall, fixing insert plate, inserts, pipe sleeves, angle pieces, rungs of various diameters, plates of dimensions as required etc. including welding, bolting, cutting, drilling, scaffolding, setting etc. all complete.	2.50	MT	73,000.00	1,82,500
13.2 0	NS	Supplying and fixing Aluminium rolling shutters of approved make, made of required size (approx. 3500x4500 mm), 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 aluminium top cover of required thickness for rolling shutters.	4.00	Nos	388,030.6 6	15,52,123
13.2 1	NS	Providing and fixing Electronic Door Lock for wooden flush door shutters in guest rooms of Hostel Block.	81.00	Nos	15,590.81	12,62,856

13.2 2	NS	Extra over of Item No. 10.6 (DSR 21.18) for Providing and fixing of Automatic Bi-Parting Sliding Door Operator, Modular Design including internal cover with operator dimensions as per requirement and as per drawing for max. opening size of upto 2.0Mtr Wide & weight capacity for double leaf door is 2x120 Kg .Microprocessor Controlled unit will be self-learning with adjustable parameters for opening & closing speed, hold open time, reversing when obstacles are encountered. Operator will have 100W DC brush-less Motor, approved make Timing Belt. Operator can be integrated with Microwave Sensor / Presence Detector Sensor / Foot Switch Sensor / Hand wave sensor, Safety Beam (Light Barrier), Programmable Remote Control to Set different modes & Automatic Locking Mechanism, RFID / Biometric / Fingerprint / Access Card Control System & Push Button. (Only operating system for automatic door opening & closing system shall be paid in this item, 12 mm thick toughened glass shall be paid in Item No. 10.09 sepratley)	4.00	Nos	1,28,978	5,15,915
13.2 3	NS	Providing and fixing aluminium sliding door work using three tracks of aluminium section with aluminium wire mesh shutter as per drawing. The aluminum section will be anodized / powder coating with approved finish.				
		Oute frame top 116x25x2.5 mm				
		Oute frame bottom 116x25x2.5 mm				
		Shutter interlock 50x36x2.5 mm				
		Middle lock 50x25x2.5 mm				
		Top & bottom 64x25x2.5 mm				
		Aluminum section shall be powder coated as per approved shade minimum 55-60 micron				
		The aluminium sliding door work shall be anchored RCC beams/columns using EPDM gasket, fastners, sliding lock, joint screw & necessary hardware complete with all repect as per direction engineer & incharge. Cost to include transportation charge upto site. The cost to including all hardware comparising to door, window handles, lock, tower bolt, door stopper etc. complete in all respect.				

		Glass: 6 mm thick toughened glass as per approved make	763.98	Sqm	7,008.34	53,54,263
13.2 4	NS	Providing and fixing 6" SS door handle to be fixed with SS screw compete for wooden laminated flush door shutter	81.00	Nos	543.58	44,030
13.2 5A	NS	Providing, supplying and filling of local earth by machanical transport up to any lead, also including rolling, compacting and watering of the earth in layers not exceeding 20cm in trenches, plinth, sides of foundation etc. complete.	23566.63	Cum.	317.80	74,89,441
13.2 5B		Providing, supplying and filling of local earth by machanical transport up to any lead, also including rolling, compacting and watering of the earthin layers not exceeding 20cm in trenches, plinth, sides of foundation etc. complete to achieve dry density upto 95% as per Proctor density in road work Extra for compaction of earth work in embankment under optimum moisture conditions to give at least 95% of the maximum dry density (proctor density).	31004.25		328.50	1,01,84,852
13.2 6	NS	Rubber/EPDM Flooring				
		Spray Coat System 15 mm thick. This is a sprayed-on system. This system to be paved with professional construction machinery controlling the thickness after the polyurethane adhesive is mixed with special rubber grains according to controlling proportion specially designed for sports grounds. Special rubber grain and polyurethane painting of the same colour are sprayed and covered on the rubber base pad on the surface, forming special and organized grains and bringing the surface layer correct frictions and slide-resistance. Mechanically formed courses tobe in good level degrees. The materials are porous after formed, thus leaving no water accumulated after raining and can be put into use immediately so as to improve the usage.				

		First clean the surface of proposed Courts sites of all weeds and other grasses by scrapping the soil. Create slope of 1" in every 10" towards shorter axis where you wish to have open saucer drain. Compact the scrapped/levelled surface with light roller. Thereafter lay 4" thick PCC in 1:2:4 to be laid. After that lay on top of this, thickness of 40 mm thick IPS flooring. Let this harden for a day or two. Once this it is hardened then allow to cure this for 14 to 15 days time. <i>(The cost of PCC and IPS flooring shall be paid in original item)</i>	747.00	Sqm	4,686.65	35,00,929
		Total Carried of Summary (NON SCHDEULE ITEMS OF CIVIL WORK)				6,15,55,466
		PLUMBING WORK				
	II.	NON-SCHEDULED ITEMS				
		INTERNAL PLUMBING WORK				
A1		Sanitary Fixtures: (Fixing)				
1	NS1	Providing and fixing of sink mixer with swivel spout including cutting and making good the wall complete.	6.00	Each	2,753.00	16,518
2	NS2	Providing and fixing of CP brass shower set comprising of CP brass Concealed Body for Single Lever Diverter 40mm Cartridge with Button Assembly, Cartridge Sleeve (Button On Top) But without Exposed Parts with Exposed Parts Kit, spout, shower arm, shower rose complete including cutting and making good the wall etc.	66.00	Each	6,808.00	4,49,328
3	NS3	Supplying automatic 'NO-Touch ' SS electric hand-driers complete with all accessories & fittings.	8.00	Each	14,890.00	1,19,120
4	NS4	Providing & Fixing 300mm long SS grab bars fixed to wall with rawl plugs and CP brass screws complete.	3.00	Each	3,948.00	11,844
A2		Soil, Waste, Vent & Rain Water Pipes				-

5	NS5	Providing and fixing bronze Cleanout plug for cleaning.				-
5.1		For 110 OD Pipe	92.00	Each	1,010.00	92,920
A3		Water Supply				-
6	NS6	Providing and fixing G.I. Pipes complete (IS:1239 Medium class) with all G.I. Fittings (bends, tees, reducers, plugs, union, flange etc) and clamps as required at site and jointing with loctite tape or hold tite including painting with two coats of synthetic enamel paint of approved shade , make & quality, chase cutting and making good the walls, floors etc. wherever required (Cold,Hot pipe in Terrace & Hot water supply pipe in Shaft)				-
6.1		65mm dia nominal bore	128.00	Meter	648.00	82,944
6.2		80mm dia nominal bore	4.00	Meter	811.00	3,244
7	NS7	Providing and fixing automatic OHT Level Control system (Solenoid Valve PGV Model +Strainer+ Level Float Switch + Controller) - Automatic OHT Level Control system Consists of following items. 1.1) 32mm diameter Solenoid Valve, MOC: Plastic, Pilot Operated Diaphragm Type Screwed end (PGV Model) with IP65 Coil and Manual Override. 1.2) Strainer, 1.3) 5 Mtr level Float Switch, 1.4) 24V Control Box with indicator.	2.00	Each	16,807.00	33,614
		EXTERNAL PLUMBING WORK				
B3		EXTERNAL WATER SUPPLY WORK				
8	NS	Providing and fixing Blue Coloured MDPE pipes of PE 80 Grade stabilized including all MDPE electrofusion fittings viz. elbows, tees, service saddle, testing of joints complete as per direction of Engineer in Charge for Irrigation System.				-
a.		PN - 12.5 Pipe, 110 mm OD PE80 ISO: 4427	901.30	Meter	1,675.00	15,09,678
b.		PN - 12.5 Pipe, 40 mm OD PE80 ISO: 4427	30.00	Meter	228.00	6,840

c.		PN - 12.5 Pipe, 32 mm OD PE80 ISO: 4427	76.00	Meter	145.00	11,020
d.		PN - 12.5 Pipe, 25 mm OD PE80 ISO: 4427	142.50	Meter	91.00	12,968
9	NS	Providing and making connection of garden hydrant with MDPE pipe including saddle of pipe dia x 25mm dia and fixing on pipe complete in all respects.	16.00	Each	1,256.00	20,096
		Total c/f to summary (MR Items)				
B4		WATER SUPPLY PUMPS & EQUIPMENTS WORK				
1	NS	<u>Domestic/Flushing Water Pump (Hydropneumatic System With Variable Speed Pumps)</u>				
		Providing, fixing and testing of skid mounted variables frequency drive hydropneumatic system with variable speed system comprising of :-				
a)		Vertical, inline multistage centrifugal pumping set with stainless steel SS-304 stage casing and SS-304 impellers with stainless steel SS-316L shaft as per IEC standards and GJL250 cast iron suction & discharge casing, connected to TEFC ventilated induction motor of 2 poles, 2900rpm, suitable for 400/440 Volts, 3 phase, 50 Hz A.C. supply.				
b)		Pressure vessel of non corrosive FRP composite construction lined with NSF and/or FDA listed material, like high density polyethylene with fully replaceable polyurethane. Air cell burst pressure of minimum of 5 times the vessel operating pressure and cycle tested for 2,50,000 cycles.				
		No. and capacity of Pressure Vessel – 01 Nos. x 200 Ltrs				
c)		Control Panel with programmable logic controller (PLC) for cyclic operation of pumps. Pump working sequence should change after every operation. Contractor overload relays and MCBs should confirm to IEC 898 – 1995/ specifications. Blinking indications for pumps start, trip, low level trip, health supply should be provided in the				

		panel along with the ammeter & voltmeter. Control panel should also consist of cooling fan. Main incomer MCB, Outgoing MCBs, Single phase preventors complete with auto manual switches, dry run protection arrangements, Voltmeter/Ameter, Indication lights, Controller for dry run protection.				
d)		Pressure transmitting relay bellow type fitted with micro switch and having maximum pressure and differential scale should confirming BS-6134 standards and IP55 protection class.				
e)		GI heavy class (IS:1239) Suction and delivery header with brass Ball valves with plastic coated handle (tested to 20kg/sqcm), Hot Pressed brass OT-58 with stainless steel ball and P.T.F.E seal and O-Ring. Brass NRVs (Test pressure =20 Kg/sqcm) to be used should be with Springs and O-Ring arrangement.				
f)		Complete set system to be mounted on a common base frame and shall follow following duty (Skid shall be powder coated).				
1.1	NS	Domestic Water Pumps (Set of three Pumps Two Working + One Standby) suitable to pump tubewell water (Two No. Location of UGT)				
		Capacity: app. 250lpm				
		Head: app. 110 m	1.00	Set	9,21,798	9,21,798
1.2	NS	Treated Water Pumps (Set of three Pumps Two Working + One Standby) suitable to pump tubewell water (Two No. Location of UGT)				-
		Capacity: app. 250lpm				-
		Head: app. 25 m	1.00	Set	7,00,783	7,00,783
1.3	NS	Flushing Water Pumps (Set of Two Pumps one Working + One Standby) (Two No. Location of STP)				-
		Capacity: app. 200lpm				-
		Head: app. 45 m	1.00	Set	5,76,798	5,76,798
						-

2		<u>Pressure Filter (Domestic Water)</u>				-
		Providing and fixing vertical pressure filter with dual media filter (comprising of 600mm bed depth of graded sand gravel and 600mm bed depth of Anthracite) fabricated from high performance M.S plate of minimum 8mm thick for shell & 10mm thick for dished ends with top and bottom flanged openings including top and bottom hub and lateral distribution and collection system complete with initial charge of filter media, face piping, valves, accessories, painting, testing and commissioning complete.(Tested to 6 Kg/m ²)				-
		Discharge: 24000 lph				-
		Filtration Rate: 20000 lit./m ² /h				-
		Suggested dia app.: 1500 mm	1.00	Each	220,012	2,20,012
3		<u>Activated carbon Filter (Domestic Water)</u>				-
		Providing and fixing vertical activated carbon filter comprising of activated carbon filter media fabricated from high performance M.S plate of minimum 8mm thick for shell & 10mm thick for dished ends with top and bottom flanged openings including top and bottom hub and lateral distribution and collection system complete with initial charge of filter media, face piping, valves, accessories, painting, testing and commissioning complete.(Tested to 6 Kg/m ²)				-
		Discharge: 24000 lph				-
		Filtration Rate: 20000 lit./m ² /h				-
		Suggested dia app.: 1500 mm	1.00	Each	240,477	2,40,477
4		<u>Water Softener</u>				-
		Providing and fixing 'Cation' ION exchange water softener fabricated from minimum 8mm thick M.S. plate on shell and 10mm thick M.S. plate on dished ends complete with initial charge of filter media and ION exchange resins, face piping accessories, piping testing and commissioning complete with resins of approved quality and make and brine tank of required capacity. (Bidder must				-

		indicate type and quantity of resin used and quantity of salt required per regeneration).				
		Minimum expected rate of flow: 24000 lph				-
		Total soft water to be produced between two regeneration: app. 100 Cu.m				-
		Expected raw water hardness: app. 500 ppm				-
		Expected treated water hardness: less than 100 ppm				-
		Max. working pressure: 4 Kg/cm ²				-
		Total soft water to be produced between two regeneration: app. 100 Cu.m	1.00	Each	353,041	3,53,041
5		Providing and fixing M.S salt saturator, internally rubber lined as per requirement and externally painted with suitable anti-corrosive paint, with all required accessories for holding and supplying salt for softener complete in all respects, with electrically operated stirrer and of capacity 500 litres.	1.00	Each	30,700.00	30,700
6	NS	Design, Fabrication, assembling, wiring, supply, installation, testing and commissioning of motor control centre fabricated out of 14 gauge CRCA sheet steel. Cable gland plates shall be provided on top as well as at the bottom of the panels. Panels shall be treated with all anticorrosive process before painting as per specifications with 2 coats of red oxide primer and final approved shade of powder coated paint. 2 Nos. earthing terminals shall be provided for 3 phase, 4 wire, 50 Hz supply system. Lifting hooks shall also be provided in case of large panels. Approval shall be taken for each panel before fabrication. Quoted rates shall be inclusive of cables (from this panel to panel of Hydropneumatic system and filter feed pumps and flushing water pumps in accordance to specification) with earthing from panel to earthing pit.				-
		Panel shall be supplied with P&I based online MIMIC display with LED's at all specific drive /operation to enable Visual Display of Complete pumps activity on Panel front.				-
		For domestic water hydro pumps, raw water				-

		pump, auto chemical doser and sump pumps etc. in plant room.				
a)		Two incoming main isolation 100A TPN MCCB (35ka).				-
b)		40A TPN MCCB outgoing for domestic water transfer pump-4 Nos				-
c)		40 A TPN MCCB outgoing for Softener/filter feed pumps - 4 Nos.				-
d)		32 A TP MCB of for each sump pumps - 4 Nos.				-
e)		2 Nos. 40 A TP MCB of or sump pumps				-
f)		Panel type voltmeter 150mm with rotary selector switch for reading voltage between phases.				-
g)		Panel type Ammeter 150mm with rotary selector switch for reading currents between phases.				-
h)		Neon phases indicating lights on the incoming mains.				-
i)		All internal wiring colour coded from incoming mains to various switchgear, starter, meter, indicating lamp and bus bar. All the cable entry to the panel shall be from the top.				-
		(All for above from item (a) to (i) complete set). (The shop drawing to be prepared and approved before fabrication)	1.00	Set	255,827	2,55,827
7	NS	Providing and fixing motor pump controller cum water level indicating panel in powder coated sheet metal box in 16 gauges M.S including the following:				-
i)		Electronic water level controller working on magnetic type sensing probes with necessary length of armored cable up to control panel.				-
ii)		Electronic minimum 4-level indicator with magnetic type sensing probes and necessary length of armored cable upto control panel.				-
iii)		Arrangement of alternate switching mechanism for operational and standby pumps.				-
(A)		<u>For Water level indicators with following details:</u>				-
i)		<u>Underground tanks</u>				-
		Minimum 4 level Multi level indicators with magnetic type sensor probes complete. (Each UGT)	4.00	Each	18,932.00	75,728

8	NS	Providing and fixing G.I. pipes (I.S. 1239 heavy duty class) complete with all necessary G.I. Fittings including all necessary fittings like bends, elbows, tees etc., either welded or screwed or flanged joints as per requirements, including all anchor blocks, anchor fasteners, couplings in all respects including enamel painting of required shade, cutting holes and chases in RCC wall and making good complete (The cost of flanges will be paid separately).				-
a)		100mm dia	45.00	Metre	1,357.00	61,065
b)		150mm dia	30.00	Metre	1,908.00	57,240
9	NS	Providing and fixing C.I double flanges suction strainer bucket type/ “Y” type including, nuts, bolts and 3mm thick rubber insertion complete.				-
a)		100mm dia	2.00	Each	8,320.00	16,640
b)		150mm dia	2.00	Each	16,658.00	33,316
10	NS	Providing and fixing butterfly valves, wafer end type class PN 1.0 as per I.S:13095 - 1991 or BS:5155, including necessary nuts, bolts, gaskets etc. complete (without gear box)				-
a)		100mm dia nominal bore.	4.00	Each	5,562.00	22,248
b)		150mm dia nominal bore.	4.00	Each	9,859.00	39,436
11	NS	Providing and fixing M.S. structural work fabricated from standard section e.g. M.S rounds, angles, channels, plates including cutting to size, drilling, welding fixing and welding to insert plates in RCC structural members or through dash fasteners as per site conditions as directed by Engineer-in-charge including cutting and making good the walls, ceilings and floors (for pipe supports, clamps etc.)	80.00	Kg.	150.00	12,000
12	NS	Submersible pumps				-
12.1		Providing, fixing and testing of Submersible single stage single entry pumps with C.I.body and C.I. two vane enclosed type impeller connected to TEFC submersible motor for 415 volts, 3 phase, 50 cycles				-

		including MCC panel with level controllers, auto control, sequential change over facility with one proper working at low level & two proper working at high level with an audible alarm including all interconnectivity cables, MCB, copper bus bar, with both pumps connected to common outlet header including valves, non return valves, lifting chains etc. complete in all respect				
		(one working+One Standby)				-
		(Solid handling capacity 12mm)				-
		Capacity - 225 lpm (Each)				-
		Head - 12 m				-
		HP (Approx) - 1.0 HP	1.00	Set	2,10,000	2,10,000
B6		400 KLD SEWERAGE TREATMENT PLANT WORK				
		Design, supplying, installing, testing & commissioning of Sewage Treatment Plant) for the following duty.				
a.		Nature of effluent - Sewage from toilets, canteen shall be discharged into the STP. Design to take consideration of same.				
		The STP shall be designed based on the following parameters:				
		Daily average flow - 400 Cum / Day				
		pH - 6.5 – 8.5				
		BOD5 - 250 – 450 Mg/L				
		S. Solids - 200 – 400 Mg/L				
		COD - 400 – 3500 Mg/L				
		Oil & Grease - 30 Mg / L				
b.		Effluent discharge standard after treatment				
		pH - 6.0 – 8.5				
		BOD5 - Less than 5Mg/L				
		S. Solids - Less than 5 Mg/L				
		COD - Less than 40 Mg/L				
		Oil & Grease - Nil				
		E Coli - Nil				

A		ELECTRO-MECHANICAL UNITS				
1		PreTreatment Mechanical Units				
1.1		Supply, installation, testing & commissioning of 2 Nos. Stainless Steel-304 Perforated Corrugated Screen of size 600 mm x 800mm fabricated through 5mm thick plate having holes of 8 mm at a distance of 10 mm with suitable lifting arrangement. This is to slide in the fixed ss channels fixed on the side walls.	2.00	No	23,200	46,400
1.2		Supply, installation, testing & commissioning of 1 Nos. of Parabolic Screen.	1.00	No	202,500	2,02,500
						-
2		Level and Measurmement Control.				-
2.1		SITC of electronic type level indicator and controller for automatic operation of the system with high/low level alarm complete with auxillary NO/NC contacts for each tank.	1.00	Lot	84,000	84,000
						-
3		SITC of self priming, centrifugal sewage transfer pump pump for raw sewage transfer from equalization tank to Anoxic Tanks. The pump shall have CI casing, CI impeller and SS shaft, TEFC induction motor suitable for 415+10% Volt, 3 Phase, 50 Cycles AC Power supply, dry running protection, level controller complete with probs complete in all respect including delivery header & delivery pipe (interconnecting piping) with GI 'C' class pipe of required dia, isolation valves, NRV & vibration eliminators on delivery side of Pumps.				-
3.1		Equalization Transfer pump				-
		Capacity/Flow rate - 20 m3/h				-
		Pumping Head - 8-10 Mtr				-
		Nos. of Pump = 2 Nos. (1 Working +1 standby)	2.00	No	72,352	1,44,704
		Solid Handling: 32 mm				-
		Make-Grundfos/Ebara/Xylem				-
3.2		Plant Room Sump Pump				-
		Capacity: 14 m3/hr				-

		Pumping Head - 10 Mtr				-
		Nos. of Pump = 2 Nos. (1 Working +1 standby)				-
		Solid Handling: 10 mm	2.00	No	50,271	1,00,542
		Make-Grundfos/Ebara/Xylem				-
4		Aeration system				-
		Air diffusion system shall include the following:				-
						-
4.1		SITC of 2 No. twin type rotary air blowers (1W + 1S) capable of delivering 500 cum/hr of free air at 0.5 kg/cm ² for Aeration Tank and Equalisation tank. driven through "V" belt or directly coupled through flexible coupling to a TEFC motor of suitable HP Suitable for 415 ± 10% volts, 3 phase, 50 cycles A/C supply with all accessories complete in all respects.	2.00	No	207,000	4,14,000
		Make-Akash/Airvak/Everest				-
						-
4.2		SITC of 2 No. twin type rotary air blowers (1W + 1S) capable of delivering 300 cum/hr of free air at 0.5 kg/cm ² for TW membrane scouring system. driven through "V" belt or directly coupled through flexible coupling to a TEFC motor of suitable HP Suitable for 415 ± 10% volts, 3 phase, 50 cycles A/C supply all accessories complete in all respects.	2.00	No	172,500	3,45,000
		Make-Akash/Airvak/Everest				-
						-
4.3		SITC Disc type, EPDM membrane based, non clog type air dispersion system capable of handling 3-5 cfm of air with oxygen transfer efficiency of 3-4% per/meter water depth. Air dispersion grid shall be assembled in modular form so that they can be replaced / repaired easily from plat form at the top. (Imported fine bubble membrane diffusers for equalisation tank, aeration tank & sludge holding tank)	1.00	Lot	39,600	39,600
						-
4.4		SITC Tube type, EPDM membrane based, non clog type air dispersion system capable of handling 3-5 cfm of air with oxygen	1.00	Lot	59,400	59,400

		transfer efficiency of 3-4% per/meter water depth. Air dispersion grid shall be assembled in modular form so that they can be replaced / repaired easily from plat form at the top. (Imported fine bubble membrane diffusers for MBR tank)				
						-
		Note: Air dispersion system shall be provided for Equalisation tank, Aeration tank, MBR tank and Sludge holding tank.				-
						-
5		Pipes				-
5.1		Providing & Fixing all piping (As described below) and isolation control valves, painted with synthetic enamel paint of approved brand and manufacture to give an even shade: for making the system complete.	1.00	Lot	441,750	4,41,750
						-
6		Supply, installation, testing and commissioning submersible Mixer in Anoxic tank for 350 KLD daily sewage flow (approx. 1.5 H.P.) .	1.00	No	507,500	5,07,500
		Make-ABS/Ebara				-
7		Supply, installation, testing and commissioning centrifugal monoblock Anoxic Tank recirculation pumps. Quantity: 2 Nos (1 working & 1 stand by). For 400 KLD				-
		Make: Kirloskar				-
		Flow rate (each) = 30 m3 / hr. approx.				-
		Head = 8-10 Mtr	2.00	No	36,960	73,920
8		System should comprise of the following units:				-
		Supply, installation, testing & Commissioning of MBR module immersed type with permeate capacity or inflow capacity of 350 KLD. The membranes shall be a proven design of a membrane manufacturer engaged in the production of membrane of this type with submerged Design flux 0.3 - 0.8m3/m2.day. Operating TMP 0.05 - 0.4 bar	1.00	Set	54,00,000	54,00,000
		The membrane, membrane module, and membrane cassettes shall be by one manufacturer.				-

		Module Effective Area - 20 Sq.m.				-
		Make-Deerfos				-
9		Ultraviolet Disinfection System				-
		SITC of ultraviolet dis-infection unit. The unit shall have over 99.9 % bacterial reduction from inlet to outlet. The disinfection chamber shall be constructed of SS 316L on all wetted parts. The UV lamp shall be of low-pressure mercury vapour type with hard glass enclosure, the sockets shall be water tight & vibration resistant. The lamp life shall be rated for 35000 hours. The unit shall be complete with temperature safety control, lamp out alert circuit & UV radiometer with 4 – 20 mA output as of manufacturers recommendation in all respects.				-
		The UV unit shall have with reactor, cabinet housing, cabinet cooling, treatment chamber, electrical panel, temperature safety control, lampout alert, UV radiometer along with UV monitoring system and UV monitoring readout panel. The UV Dosage should be > 350,000 uW – Sec / sq.cm. The lamps should be selected based upon the flow requirement of respective unit. as recommended by manufacturer complete in all respects.				-
		Flow Rate -20 M3/hr	1.00	Set	1,58,000	1,58,000
						-
10		Horizontal Centrifugal Pumps				-
		SITC of horizontal/vertical centrifugal pumps for filtration System. The pumps shall have CI body, CI impeller, CS shaft & sleeve, CI base & head, Mechanical Seal are connected to a TEFC induction motor mounted on a common channel base frame with coupling guard, 150 mm dia pressure gauge with GM isolation cock, suitable vibration eliminator pads under foundations of approved design, Dry running protection Motor to be suitable for 400/440 V, 3 Phase, 50 cycles AC power supply, including all necessary piping, valves, accessories, level controller complete with probes complete as required.				-

						-
10.1		MBR Permeate pump				-
		Capacity/Flow rate - 50 m3/h				-
		Pumping Head - 10-15 Mtr				-
		Nos. of Pump = 2 Nos. (1 Working +1 standby)	2.00	Each	48,840	97,680
		Make-Kirloskar/wilo				-
						-
11		Supply, installation, testing and commissioning of Filter Press suitable for 350 kld daily average flow, Approx. plate size and numbers 24"x24"x23 nos, manual with screw feed pumps 2 nos (1Working+1Standby), with interconnecting piping and poly dosing system of 0-6 lph capacity all complete.2 m3/hr@40 m head				-
		Pump Make: Roto				-
		Filter Press Make: Pharmatech/Eqv.	1.00	Set	2,47,900	2,47,900
						-
12		Membrane CIP system				-
		Supply and fixing of hypo solution dosing pump comprising of 200 Litres capacity FRP tank with inlet / outlet connection, piping & valves along with metering (0-100 LPH) pump for membrane cleaning system complete in all respects.	1.00	Set	54,000	54,000
		Supply and fixing of citric solution dosing comprising of 200 Liters capacity FRP tank inlet/outlet connection, piping & valves along with metering (0-50 LPH) pump for membrane cleaning system complete in all respects.	1.00	Set	45,600	45,600
						-
13		Insrtumentation				-
		Supply and fixing of following instrument for the operation of System and saftey of MBR modules.				-
						-
a)		Electro-magnetic flow meter cum totalizer at the sewage inlet and outlet of membrane suction pump of suitable size.				-
						-
b)		pH Meter at membrane suction pump outlet for measurement of pH.				-

						-
c)		Differential pressure switch transmittor and pressure alarm high and low, flow switch for flow alarm high and low.				-
						-
e)		Air Rotameter for Biological Air supply and Air scouring	1.00	Set	2,39,400	2,39,400
						-
14		ELECTRICAL WORKS FOR STP				-
		Supply and fixing of the following front operated cubicle type compartmentalitation, front access totally enclosed sheet steel clad, free standing, dust and vermin proof, switchboards including interconnections, copper crimping lugs, brass glands, bonding to earth and painting, suitable for use at 415 volts, 3 phase 4 wire 50 Hertz system, and with 25 kA rupturing capacity at 415 volts complete as per specifications, as required and as below.				-
		All switchboards shall have provision for entry of cables from the top or bottom as required.				-
						-
		All live accessible parts shall be shrouded and all equipment shall be finger touch proof. The busbars insulation shall be with heat shrinkable sleeves. SMC/DMC shrouds and busbar supports shall be used. Padlocking facility shall be provided on all outgoing feeders doors and switch handles shall be locakble in OFF position.				-
						-
		INCOMING				-
						-
		1 No. 150 Amp 25 kA TPN MCCB with Thermal over load and magnetic short circuit release site settable				-
						-
		INDICATING PANEL				-
						-
		The incomers shall have the following indicating panel				-
		Square flush mounting 0-150 amp scaled ammeter with 3 way and OFF selector switch				-
		3 nos. Cast resin current transformers of				-

		150/5 ratio Class 1.0, 15 VA burden for metering				
		Three phase indicating lamps				-
		Square flush mounting voltmeter scaled 0-500 volt with 3 way and OFF selector switch				-
						-
		BUSBAR				-
						-
		Electrolytic high conductivity aluminium three phase and neutral busbars rated at 200 amps having a maximum current density of 1 amp per sq mm suitable to with stand symmetrical fault level of 25 kA at 415 volts for 1 second. The neutral busbar is to be of 50% capacity.				-
		OUTGOING UNITS				-
						-
		The Switchboard shall be complete with all interconnections, risers, internal wiring, labels etc complete as required	1.00	Set	2,61,000	2,61,000
						-
15		Cabling and Earthing.				-
						-
		Providing, laying, jointing and commissioning of copper unarmoured control cabling for all electro-mechanical equipment as required	1.00	Set	94,250	94,250
						-
16		Supply, installation, testing and commissioning of cable tray for laying the cabling.	1.00	Set	28,750	28,750
		FIRE FIGHTING WORK				
		SUB HEAD-A (PIPING & VALVES)				

1		Providing and fixing M.S. pipe to I.S. 1239 (Heavy class) complete with all supports & fittings like, unions, couplings, bends, elbows, tees, offsets, reducers, flanges as per table 'E' etc. to complete the work as per the requirement at site including painting with one coat of primer after surface preparation and two coats of synthetic enamel paint, cutting and making good the walls good complete. Pipe upto 40 mm dia threaded joints with holdtite, 50 mm dia and above should be welded joint (all type) (internal works/External Works).				-
1.1		25 mm dia.	609.00	RM	353.00	2,14,977
1.2		32 mm dia.	150.00	RM	453.00	67,950
1.3		40 mm dia.	55.00	RM	537.00	29,535
1.4		50 mm dia.	79.00	RM	743.00	58,697
1.5		65 mm dia.	92.00	RM	971.00	89,332
1.6		80 mm dia.	101.00	RM	1,171.00	1,18,271
1.7		100mm dia	38.00	RM	1,660.00	63,080
1.8		150mm dia	165.00	RM	2,444.00	4,03,260
1.9		200 mm dia (6.35mm thick) IS:3589	-	RM	3,745.00	-
2		Providing and fixing M.S. pipe to I.S. 1239 (Heavy class) complete with all supports & fittings like, unions, couplings, bends, elbows, tees, offsets, reducers, flanges as per table 'E' etc. to complete the work as per the requirement at site including painting one coat and 4 mm thick PYPKOTE/ COATAK anti-rust pipe protection including primer and lap of 25mm on external buried pipe including surface preparation, complete in all respects.				-
2.1		150 mm dia	1320.00	RM	2,531.00	33,40,920
2.2		100 mm dia	10.00	RM	1,719.00	17,190
2.3		80mm dia	12.00	RM	1,218.00	14,616

3		Excavating trenches of required width for pipes cables etc. in any type of soil including excavation for sockets and dressing of sides ramming of bottom, depth upto 1.5 M including getting out the excavated soil, and then returning the soil as required in layers not exceeding 20cms in depth including consolidating Sets deposited layer by ramming, watering etc. and disposing of surplus excavated soil as directed within a lead of 50m .				-
3.1		80 mm dia. but not exceeding 300 mm dia..	1332.00	RM	225.45	3,00,299
4		Providing and fixing cast iron dual plate wafer type non return valves of PN1.6 including nuts, bolts, 1.5mm thick compressed asbestos gasket including matching flanges as per table "E" complete				-
4.1		200 mm dia.	1.00	Nos	21,948.00	21,948
4.2		150 mm dia	20.00	Nos	12,479.00	2,49,580
4.3		100 mm dia	-	Nos	6,788.00	-
5		Providing and fixing C.I. butterfly valves PN 1.6 complete with bolts, nuts 1.5mm thick compressed asbestos gasket companion flanges as per table "E" complete.				-
5.1		150 mm dia	23.00	Nos	4,255.00	97,865
5.2		100 mm dia	9.00	Nos	2,749.00	24,741
5.3		80 mm dia	11.00	Nos	2,323.00	25,553
6		Providing and fixing brass ball valve (full bore type) with plastic coated lever and screwed female ends tested to 20 Kg/ cm2 of approved quality as specified.				-
6.1		25 mm dia.	19.00	Nos	728.00	13,832
6.2		50 mm dia.	19.00	Nos	1,633.00	31,027
7		Providing and fixing gunmetal single acting air release valve with screwed inlet 25 mm dia..	7.00	Nos	665.00	4,655

8		Providing and fixing "Y" suction strainer with flanged connection suitable for 1650 lpm discharge with stainless steel 20 mesh complete including companion flanges etc. with rubberized paint and outside with two coats of enamel paint of approved shade after surface preparation necessary stainless-steel nuts, bolts, washers etc..				-
8.1		200 mm Dia	1.00	Nos	6,909.00	6,909
8.2		150 mm Dia	5.00	Nos	7,810.00	39,050
9		Providing and fixing dial type pressure gauge with isolation cock and copper pipe at hydrant station.				-
9.1		Dial diameter 100 mm calibration 0-15 kg/sq.cm.	18.00	Nos	943.00	16,974
10		Providing and fixing blank flanges as per table 'E' with asbestos gasket, nut, bolts, washers complete				-
10.1		150 mm dia.	14.00	Nos	656.00	9,184
		TOTAL SUB HEAD-A (PIPING & VALVES) C/F TO SUMMARY				-
						-
		SUB HEAD-B (FIRE HYDRANT ACCESSORIES)				-
11		Providing and fixing SS304 Single headed landing valve conforming to IS -5290 (Type-A) with 63 mm dia. single instantaneous female coupling on the outlet SS304 metal blank cap and chain, necessary companion flanges, nuts, bolts, washer and gasket complete as per specification. (ISI marked). All parts and body shall be of SS304 as per IS:5290.				-
11.1		Single outlet	30.00	Nos	9,143.00	2,74,290
12		Providing and fixing first aid fire hose reel drum wall mounting, winging type (Powder coated finish in fire red) fitted with 20 mm dia. 30 m long high-pressure hose (IS:444, Type-2) with 5 mm outlet SS nozzle with	19.00	Nos	6,095.00	1,15,805

		shut off valve (IS:8090). Name of Manufacturer should be embossed on the drum and complete hose reel drum shall be conforming to IS:884)				
13		Providing and fixing 63 mm dia. 15m long rubberized lined hose including SS304 male and female instantaneous type coupling approved by fire authority, machine wound with copper wire complete in all respects. Hose shall conform to IS 636 Type-A and coupling to IS 903 -1975 (ISI marked)	60.00	Nos	5,003.00	3,00,180
14		Providing and fixing standard short size SS304 branch pipe with gunmetal nozzle 16 mm dia. outlet with standard instantaneous type 63 mm dia. coupling. (ISI marked, IS:903)	19.00	Nos	3,680.00	69,920
15		Providing and fixing door with frame for all internal fire hydrants fabricated from 20x20x3 mm and 40x20x3 mm aluminium hollow box sections mounted with 3 no. of 100 mm Aluminium butt hinge on Aluminium angle frame of 45x45x5 mm size with hold fasts fixed to wall with P.C.C. (1:2:4) blocks 100x100x100 mm including 2 nos allen key lock for locking along with padlock arrangement & fully glazed with 4 mm thick float glass approved by local Fire Authority, powder coated fire red finish with " fire hose' written on front suitable to house 15 mm long two length of canvas hose with couplings, one no of branch pipe, one fire mans axe and two numbers of portable extinguishers, first aid fire hose and supports for hoses, branch pipes, Axe and hose reel. Size 2100x 900 mm complete as per approved design including necessary fixing arrangement for hoses & axe and branch pipe.)	19.00	Nos	7,648.00	1,45,312

16		Providing and fixing fire hose cabinet fabricated from 16 gauge M.S. Sheet with single or double glazed front door and locking arrangement, painted "Fire Red" with powder coated paint "Fire Hose" written on front including suitable supports to place 900 mm above ground level, approximately size 750x600x250 mm deep (to house two lengths of canvas hose with couplings, branch pipe and nozzle for external hydrants)	11.00	Nos.	5,693.00	62,623
17		Providing and fixing gunmetal fire brigade inlet head as per IS:904 Specification tested for 20 Kg/cm ² with 63 mm dia. instantaneous type inlet and 100/150mm dia. flanged outlet with built-in check valve for fire brigade connection to under ground tanks and fire risers including companion flanges as portable " E" including nuts, bolts & washers etc.				-
17.1		Four way	1.00	Nos	8,280.00	8,280
17.2		Three way	1.00	Nos	6,383.00	6,383
17.3		Two way	1.00	Nos	5,348.00	5,348
18		Providing and fixing gunmetal fire brigade suction 150 mm dia. for fire tank complete with PVC Cap companion flange as per table "E" nuts, bolts, gasket etc				-
18.1		150 mm	4.00	Nos.	10,868.00	43,472
19		Supplying and fixing of Fire Man's Axe with heavy insulated rubber tested upto 20 KV and confirming to IS :926.	19.00	Nos.	1,369.00	26,011
20		Air Cushion Tank for down comers				-
		Providing and fixing of air vessel of the following specifications fabricated with MS Pipe of thickness specified.				-
		specifications				-
		a. Diameter: 200 mm				-
		b. Shell Thickness: 6.35 mm				-
		c. Dish Ends: 10 mm				-
		d. Height: 1000 mm				-
		e. Finishing: Two coats of red enamel				-
		paint over primer out side and two				-

		coats of epoxy coating inside.				-
		f. Material of construction: M. S				-
		g. Test Pressure: 20 Kg/Sq.Cm.				-
		i. Height of supporting legs: 400 mm				-
		j. Quantity	2.00	Each	13,575.00	27,150
		Note: Contractor should submit general arrangement drawings before fabrication of vessel and ultrosonic test report to be submitted on supply of vessel and test to be conducted at the presence of Plumbing-In-Charge. Also, cost shall include two nos. Gunmetal NRV (ISI Marked)				-
		TOTAL SUB HEAD-B (FIRE HYDRANT ACCESSORIES) C/F TO SUMMARY				-
						-
		SUB HEAD-C (SPRINKLERS ACCESSORIES)				-
21		Providing and fixing 15 mm gunmetal sprinkler head with quartz bulb and set to operate at specified temperature pendent/ upright/ side wall /quick response as per instruction fixed with loctite. Temperature of operation 68 deg.C K-80				-
21.1		Normal response Pendent type/ upright type	321.00	Nos	529.00	1,69,809
21.2		Long throw type	1.00	Nos	529.00	529
22		Providing & fixing 25mm dia. UL listed gunmetal inspector test and drain valve with integral sight glass connected to drain line complete in all respects.	8.00	Nos	242.00	1,936
23		Providing and fixing electrically operated flow indicating switches model System Sensor in sprinkler branch line on each floor with necessary junction box installed in accessible place (Wiring from switches to panel and stair case pressurization not included)				-
23.1		100/65/50 mm dia.	8.00	Nos	4,485.00	35,880
24		Providing and fixing gunmetal installation				-

		valve with turbine type automatic alarm to be connected with control valve, drain valve, test valve and piping as per manufacturer's specifications complete in all respects.				
24.1		150 mm dia.	1.00	Nos	45,189.00	45,189
25		Providing and fixing UL/Fm listed powder coated finish Escutcheon plate complete including fixing in position on pipe and ceiling complete in all respects. (Size=15NB)	321.00	Each	331.00	1,06,251
26		Providing and fixing UL/Fm listed SS braided flexible pipe with accessories complete with all accessories specified in technical specifications (Size=15B)				-
26.1		a. 780mm long	161.00	Each	916.00	1,47,476
26.2		b. 1000mm long	161.00	Each	1,096.00	1,76,456
		TOTAL SUB HEAD-C (SPRINKLERS ACCESSORIES) C/F TO SUMMARY				-
						-
		SUB HEAD-D (FIRE EXTINGUISHERS & MISC. ITEMS)				-
27		Providing and fixing Carbon-di-oxide fire extinguishers consisting of welded M.S cylindrical body, squeeze lever discharge valve fitted with internal discharge tube, 30cms long high pressure discharge hose, discharge nozzle, suspension bracket, confirming to IS : 15683 finished externally with red enamel paint and fixed to wall with brackets with rawl plug/dash fasteners complete with internal charge. Capacity 4.5 kg. ISI Marked. (Contractor should submit test certificate form manufacturer along with serial number of every extinguishers supplied.)	19.00	Nos	8,798.00	1,67,162
28		Providing and fixing mechanical foam type (ISI marked) fire extinguishers consisting of welded M.S. cylindrical body squeeze lever discharge valve 30 cm long high ressure discharge hose, discharge nozzle suspension bracket ISI marked finished externally with red enamel paint and fixed to				-

Signature of Tenderer

		wall with brackets complete with internal charger.				
28.1		9 kg capacity. (IS. 15683)	1.00	Nos	3,738.00	3,738
29		Providing and fixing water Co2(ISI marked) extinguishers including all accessories as per IS specification with wall bracket with rawl plug				-
29.1		Capacity 9 liters. (IS:15683)	1.00	Nos	5,118.00	5,118
30		Providing and fixing of self illuminated / auto glow "EXIT" signs printed on photoluminescent sheet containing self illuminated base chemical, of appropriate size not less than 400 x 150 mm, suspended from ceiling or fixed to the walls with accessories as required and as directed at site.	38.00	Nos	929.00	35,302
31		Providing and fixing Carbon-di-oxide fire extinguishers consisting of welded M.S cylindrical body, squeeze lever discharge valve fitted with internal discharge tube, 30cms long high pressure discharge hose, discharge nozzle, trolley mounted, confirming to IS : 15683 finished externally with red enamel paint and fixed to wall with brackets with rawl plug/dash fasteners complete with internal charge. Capacity 22.5 kg. ISI Marked. (Contractor should submit test certificate form manufacturer along with serial number of every extinguishers supplied.)	1.00	Each	27,658.00	27,658
32		Providing and fixing mechanical foam type (ISI marked) fire extinguishers consisting of welded M.S. cylindrical body squeeze lever discharge valve 30 cm long highpressure discharge hose, discharge nozzle, trolley mounted ISI marked finished externally with red enamel paint and fixed to wall with brackets complete with internal charger.				
32.1		50 liters capacity. (IS. 15683)	1.00	Each	20,988.00	20,988

		TOTAL SUB HEAD-D (FIRE EXTINGUISHERS & MISC. ITEMS) C/F TO SUMMARY				-
						-
		SUB HEAD-E (FIRE PUMPS & ACCESSORIES)				-
		(All pumps will be supplied with wearing ring, mechanical seal and coupling guard and Base Frame. Rates Quoted for pumps shall include making of foundation, supply and fixing of base frame, foot valve on suction side, butterfly valve and NRV on delivery side complete in all respects)				-
33		Wet Riser Pump and Electrical Pump (Single stage) Providing and fixing Factory fitted horizontal split casing pumping set with volute bronze impeller connected to a TEFC induction motor suitable for 410/440 volts, 3 phase, 50 cycles AC supply as per the details given below:				-
		a. Capacity: 2850 lpm				-
		b. Head: 110 meters				-
		c. HP: As per Approved performance curve				-
		d. No of stages: single				-
		e. RPM: 2900				-
		f. Mover: Electric Motor driven.				-
		g. Material of Construction/Specification				-
		Shaft & Sleeve: S.S. 410				-
		Impeller: Bronze				-
		Casing: CI				-
		Bearing: Grease lubricated				-
		Seal: Mechanical Seal				-
		Quantity:				-
		Note: Pump and Motor should meet the additional requirements as specified in the Specifications	2.00	Each	4,84,409	9,68,818
34		Jockey Pump: Providing and fixing factory fitted horizontal centrifugal pump with volute brozne impeller connctected to TEFC induction motor suitable for 400/410 Volts, 3				-

		Phase, 50 Cycles, AC supply with the following specifications:				
		a. Capacity: 180 lpm				-
		b. Head: 110 m.				-
		c. HP: As per Approved performance curve				-
		d. RPM: 2900				-
		e. Mover: Electric Motor driven				-
		f. Material of Construction:				-
		Shaft & Sleeve: S.S. 410				-
		Impeller: Bronze				-
		Bearing: Grease lubricated				-
		Seal: Mechanical Seal				-
		Quantity:	2.00	Each	99,217	1,98,434
35		Diesel Engine Driven Fire Pump				-
		Supplying and fixing factory fitted single stage horizontal split casing pumping set of the following specifications including vibration elimination pads.				-
		Capacity: 2850 LPM				-
		Head: 110 m				-
		HP: As per approved performance curve				-
		RPM: 1800 (pump and engine)				-
		Material of Construction:				-
		Shaft & Sleeve: S.S. 410				-
		Impeller: Bronze				-
		Bearing: Grease, lubricated				-
		Seal - Mechanical seal.				-
		Pump foundation as per manufacturer.				-
		Quantity:				-
		Note: Pump and motor should meet the additional requirement as specified on the specifications and rates will be inclusive of everything as mentioned in the specifications.	2.00	Each	6,96,849	13,93,698
36		Water Curtain Pump:(Single Stage) Providing and fixing factory fitted horizontal centrifugal pump with volute brozne impeller conncted to TEFC induction motor suitable for 400/410 Volts, 3 Phase, 50 Cycles, AC				-

		supply with the following specifications:				
		a. Capacity: 1200 lpm				-
		b. Head: 110 m.				-
		c. HP: As per Approved performance curve				-
		d. RPM: 2900				-
		e. Mover: Electric Motor driven				-
		f. Material of Construction:				-
		Shaft & Sleeve: S.S. 410				-
		Impeller: Bronze				-
		Bearing: Grease lubricated				-
		Seal: Mechanical Seal				-
		Quantity:	1.00	Each	2,45,123	2,45,123
37		Air Vessel for Fire Pump:				-
		Providing and fixing of air vessel of the following specifications fabricated with MS sheets.				-
		a. Diameter: 400 mm				-
		b. Shell Thickness: 8 mm				-
		c. Dish Ends: 10 mm				-
		d. Height: 1200 mm				-
		e. Finishing: Two coats of red enamel				-
		paint over primer out side and two				-
		coats of epoxy coating inside.				-
		f. Material of construction: M. S				-
		g. Test Pressure: 22 Kg/Sq.Cm.				-
		i. Height of supporting legs: 400 mm				-
		j. Quantity				-
		Note: Contractor should submit general arrangement drawings before fabrication of vessel and ultrosonic test report to be submitted on supply of vessel and test to be conducted at the presence of Plumbing-In-Charge.	1.00	Each	25,103.00	25,103
38		Terrace Pump: Providing and fixing factory fitted horizontal centrifugal pump with volute brozne impeller connctected to TEFC induction motor suitable for 415/450 Volts, 3 Phase, 50 Cycles, AC supply with the following specifications:				-

		a. Capacity: 450 lpm				-
		b. Head: 40 m.				-
		c. HP: As per Approved performance curve				-
		d. RPM: 2900				-
		e. Mover: Electric Motor driven				-
		f. Material of Construction:				-
		Shaft & Sleeve: S.S. 410				-
		Impeller: Bronze				-
		Bearing: Grease lubricated				-
		Seal: Mechanical Seal				-
		Common bed plate fabricated of MS type.				-
		Quantity: 2 number (1 working + 1 Standby)	2.00	Set	1,45,907	2,91,814
39		Providing and fixing liquid level controller for fire pump to stop fire pump in case of low level of water in tank, cost of conduit, cable and panel including making connection to pump panel and commissioning complete.				-
39.1		Float type Sensor with panel and installation	9.00	Nos	12,970.00	1,16,730
40		Providing and fixing dual type pressure switch suitable for 1-20 Kg/cm ² including electrical connections setting of Cut-In and cut-Off pressure complete in all respects.	9.00	Nos	1,883.00	16,947
41		Providing and fixing rubber expansion joint (to provide relief from stresses at pipe flanges) as per specification of the manufacturers and direction of Engineer in chief PN-16 rating				-
		150 MM DIA	18.00	Nos	4,000.00	72,000
		FOR UGT PUMPS				-
42		Design, fabrication, assembling, wiring, supply, installation, testing and commissioning of motor control centre shall be fabricated out of 14-gauge CRCA sheet steel in form in 3b formation with reinforcement of suitable size angle iron, channel 'T' sections irons and /or flats wherever necessary. Cable gland plates shall be provided on top as well as at the bottom of				-

		the panels. Panels shall be treated with all anticorrosive process before painting as per specifications with 2 coats of red oxide primer and final approved postal red color shade of powder coated paint. 2 Nos. earthing terminals shall be provided for 3 phase, 4 wire, 50 Hz supply system. Lifting hooks shall also be provided in case of large panels. Approval shall be taken for each panel before fabrication. Cadmium Plated hardware shall be used in fabrication of panels.				
		Incomer:				-
		One incoming main isolation TPN MCCB of 600A rating				-
		One fully taped copper bus bar of 700A capacity in separate bus bar chamber.				-
		One square panel type Voltmeter reading 0-500 V with rotary selector switch for reading voltage between phases.				-
		One panel type Amperemeter (0-500A) with selector switch and CT				-
		3 phase indication lights				-
		Outgoing				-
		2 no. 260A TPN MCCB for main pump				-
		1 no. 160A TPN MCCB for water curtain pump				-
		2 no. 40A TPN MCB one for jockey pump				-
		3 no. Star-Delta starter, one no. DOL Starter of suitable capacity.				-
		3 nos. single phase preventors of suitable rating one for each motor				-
		2 nos. rotary type auto/manual off selector switch.				-
		Space for 7 Nos. liquid level controller				-
		Providing and fixing 1 No. auto start panel activated with pressure switch for diesel engine complete with all accessories, batteries, battery charger of suitable rating, MCB timers, push buttons, microprocesso based alarm annunciator, wiring and cabling including connection to diesel engine complete as required ready for working				-

		Appropriate etched aluminium identification plate for each starter/switch.				-
		Colour coded internal wiring from main to bus bar, switchgear, starters, indicating lamps complete in all respects.	1.00	Each	2,93,250	2,93,250
		FOR TERRACE PUMPS				-
43		Manufacturing supplying installation testing and commissioning of common control pannel for fire fighting pump system comprising of Terrace pump. All the components shall be housed in 2 MM thick CRCA MS Sheet. The control pannel shall be cubical type dust and vermin proof hinged and lockable doors and deed friend operation. The panel shall be powder coated with siemens gray and doors will be sky blue. All internal control wiring shall be 1.5 MM sqm copper provided. Seperate compartment for each motor/pumpstarter, busbar chamber, cable alley and in comer. All MCCB shall be door lockable type copper earthing bus bar shall be provided, control panel shall also be provided with potential free contacts for Building management system and level controller for all the pumps for dry run protection. Panel is complete with following				-
		Panel shall be complete with 40A MCB(35 KA) main incomer, phase indicating lights with 6 A MCB, Voltmeter to read voltage between 0-440V with voltage selector switch, Amperemeter to read current between 0-250 A with ampere selector switch, 32A(10 KA) MCB with socket for welding, 1 No. DOL starter for pump, 1 No. auto manual switch , 1 No single phase preventors complete with earthing of panel and motors.	2.00	Each	34,500.00	69,000
		TOTAL SUB HEAD-E (FIRE PUMPS & ACCESSORIES) C/F TO SUMMARY				-
		Total Carried of Summary (NON SCHEDULED ITEMS OF PLUMBING WORK)				2,62,61,767
		HORTICULTURE WORK				
	III.	NON-SCHEDULED ITEMS				

1	NS	SUPPLY AND INSTALL TREES				
1.1	NS	Largestroemia Speciosa	15.00	Nos.	1,000.00	15,000
1.2	NS	Ficus benjamina	55.00	Nos.	600.00	33,000
1.3	NS	Pterospermum acerifolium	19.00	Nos.	1,150.00	21,850
1.4	NS	Quercus Leucotrichophora	100.00	Nos.	2,350.00	2,35,000
2	NS	SUPPLY AND INSTALL PALMS				
2.1	NS	Raphis Excelsa	68.00	Nos.	1,800.00	1,22,400
2.2	NS	Washingtonia palm	6.00	Nos.	6,000.00	36,000
2.3	NS	Kadam	100.00	Nos.	1,000.00	1,00,000
2.4	NS	Neem	100.00	Nos.	950.00	95,000
2.5	NS	Ashoka	100.00	Nos.	950.00	95,000
2.6	NS	Arjun	100.00	Nos.	1,000.00	1,00,000
2.7	NS	Gulmohar	100.00	Nos.	1,000.00	1,00,000
2.8	NS	Jamun	100.00	Nos.	1,000.00	1,00,000
3		SUPPLY AND INSTALL SHRUBS				
3.1	NS	Alpinia zerumbet ' variegata'	50.00	Nos.	130.00	6,500
3.2	NS	Jasminum sambac	100.00	Nos.	70.00	7,000
3.3	NS	Caesalpinia pulcherrima	150.00	Nos.	80.00	12,000
3.4	NS	Furcaerea foetida var striata	76.00	Nos.	330.00	25,080
3.5	NS	Penissetacum	2000.00	Nos.	35.00	70,000
3.6	NS	Pandanus	425.00	Nos.	55.00	23,375
		TOTAL OF SCHEDULE - 'B' (NON SCHDEULE ITEMS OF HORTICULTURE WORK) -				11,97,205
		TOTAL OF SCHEDULE 'B'				8,90,14,438

Explanatory Notes for BOQ:

- (i) The quantity mentioned in the Schedules is approximate and the DFCCIL reserves the right to increase / decrease the same as per site requirement.

Signature of Tenderer

SCHEDULED – “C”						
Schedule of Prices & Total Prices						
Name of Work: Construction of Heavy Haul Research Institute (HHRI) comprising of Admin & Hostel Block and General Lab including related allied facilities at Sector – 145, Noida						
SCHEDULED ‘C’ – (STEEL REINFORCEMENT)						
14.1	NS	Steel reinforcement for R.C.C. work including straightening, cutting, bending, placing in position and binding all complete. Thermo-Mechanically Treated bars of grade Fe-500D or more.	840449	Kg.	62.94	5,28,97,883
		TOTAL OF SCHEDULE - “C”				5,28,97,883

Explanatory Notes for BOQ:

- (i) The quantity mentioned in the Schedules is approximate and the DFCCIL reserves the right to increase / decrease the same as per site requirement.

 Signature of Tenderer

**SAMPLE
A G R E E M E N T
CONTRACT AGREEMENT**

THIS AGREEMENT ("Agreement") is made at Noida on the ____day of __

BETWEEN

- (1) 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 called 'the Employer'*), and -----
-----, a company / corporation / JV incorporated under the laws of -----having its principal place of business at ----- (*hereinafter called "the Contractor"*).

WHEREAS in reference to a call for Tender for "**Construction of Heavy Haul Research Institute (HHRI)** comprising of Administrative & Hostel Block and General Lab including **Related Allied Facilities at Sector – 145, Noida**" as per **Tender No. CGM/DFCCIL/NOIDA UNIT/CONSTRUCTION OF HEAVY HAUL RESEARCH INSTITUTE (HHRI)/2019/03**

At Annexure "A" here to, the Contractor has submitted a Tender hereto and whereas the said Tender of the contractor has been accepted for Construction of -----
----- as per copy of the Letter of Acceptance of Tender No----- dated ----_complete with enclosure at the accepted rates and at an estimated contract value of Rs._____(*Rupees only*). Now the agreement with witnesses to that in consideration of the premises and the payment to be made by the Employer to the Contractor provided for herein below the Contractor shall supply all equipments and materials and execute and perform all works for which the said Tender of the Contractor has been accepted, strictly according to the various provisions in Annexure 'A' and 'B' hereto and upon such supply, execution and performance to the satisfaction of the Purchaser, the Purchaser shall pay to the contractor at the several rates accepted as per the said Annexure 'B' and in terms of the provisions therein.

IN WITNESS WHEREOF the parties hereto have caused their respective Common Seals to be hereunto affixed/ (*or have hereunto set their respective hands and seals*) the day and year first above written.

For and on behalf of the Contractor

For and on behalf of the Employer

Signature of the authorized official

Signature of the authorized official

Signature of Tenderer

Name of the official

Name of the official

Stamp/seal of the Contractor

Stamp/Seal of the Employer

SIGNED, SEALED AND DELIVERED

By the said

By the said

_____ Name

_____ Name

on behalf of the Contractor in the
of:

on behalf of the Employer in the presence
presence of:

Witness _____
Name _____
Address _____

Witness _____
Name _____
Address _____

Enclosures: -

1. Annexure 'A' - Tender Papers No.

2. Annexure 'B' - Letter of Acceptance of Tender No. _____ Dated _____

along with Summary of Prices

3. Other enclosures -

Signature of Tenderer

Format of Bank Guarantee for Performance Security

Bank Guarantee no.....

Dated.....

To,
 Chief General Manager,
 Dedicated Freight Corridor Corporation of India Ltd/Noida Unit
 D-89, 1st Floor, Sector-2,
 Noida-20 1301

Reference: -Contract No....., awarded on

This deed of Guarantee made this day of _____ between _____ (*name of Bank*) having registered office at _____ and branch office at _____ (*hereinafter referred to as "Bank"*) of the one part and Dedicated Freight Corridor Corporation of India Limited (*hereinafter called the Employer*) of the other Part.

Whereas Dedicated Freight Corridor Corporation of India Limited has awarded the Contract no..... for construction of (*hereinafter called "the Contract"*) to M/s.....its registered office at (*hereinafter called "the Contractor"*).

Whereas the contractor is bound by the said Contract to submit to the Employer an irrevocable performance security guarantee bond for a total amount of Rs..... (*Rs. In Words*) only.

Now, we the undersigned (*Name of Bank officials*), of the bank being fully authorized to sign and to incur obligations for and on behalf of the Bank hereby declare that the said Bank will guarantee the Employer the full amount of Rs..... (*Rs. In Words*) as stated above.

After the Contractor has signed the aforesaid contract with the Employer, the Bank further agree and promise to pay the amount due and payable under this guarantee without any demure merely on a demand from the Employer stating that the amount claimed is due by way of loss or damage cause to or would be caused or suffered by the employer 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

 Signature of Tenderer

Bank under this guarantee. However, our liability under this guarantee shall be restricted to an amount not exceeding Rs..... (*Rs. in Words*) only.

We..... (*indicate the name of Bank*), further undertake to pay to the Employer any money so demanded notwithstanding any dispute or dispute raised by the contractor in any suit or proceeding pending before any court or Tribunal relating to liability under this present being absolute and unequivocal.

The payment so made by us (*name of Bank*) under this bond shall be a valid discharge of our liability for payment there under and the Contractor shall have no claim against us for making such payment.

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 Employer under or by virtue of the said agreement have been full paid and its claims satisfied or discharged by (*Designation & Address of Contract signing authority*) on behalf of Employer certify that the terms and conditions of the said agreement have been fully and properly carried out by the said contractor and accordingly discharges this guarantee.

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 employer or until (*date of validity/extended validity*) whichever is earlier and no claim shall be valid under the guarantee unless notice in writing thereof is given by the Employer within validity/extended validity period of guarantee from the date aforesaid.

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

We..... (*indicate the name of Bank*), to further agree with the Employer that the Employer shall have the fullest liberty without our consent and without effecting in any manner out of obligation 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 power exercisable by the Employer against the said contractor and to forbear or enforce any of the terms and conditions of the said agreement and we shall not be relieved from our liabilities by reason of such variation, or extension being granted to the said contractor for any bearing act or omission on the part of the Employer or any indulgence by the Employer to

the said contractor 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.

The Guarantee hereinbefore contained shall not be affected by any change in the constitution of Bank or of the Contractor.

The expressions “the Employer”, “the Bank” and “the Contractor” hereinbefore used shall include their respective successors and assigns.

We..... (*Name of the bank*) lastly undertake not to revoke this guarantee during its currency except with the previous consent of the Employer in writing.

Notwithstanding anything to the contrary contained hereinbefore:

- i) Our liability under this Bank Guarantee shall not exceed and restricted to Rs..... (*Rs. in words*).
- ii) This Bank Guarantee shall be valid up to, unless extended on demand by Employer.
- iii) The Bank is liable to pay the guaranteed amount or any part thereof under this Bank Guarantee only if Employer serve a written claim or demand on or before.....

IN WITNESS WHEREOF we of the Bank have signed and stamped this guarantee on this day of being herewith duly authorized.

Bank seal

Signature of Bank Authorize Official with seal

Name.....

Designation:

Address:

Witness:

1. Name:

Designation:

Address:

2. Name:

Designation:

Address:

Signature of Tenderer

INDEMNITY BOND

This deed of Indemnity Bond is made at NOIDA, on this day of , we,,through its Authorized Signatory (hereinafter called 'Contractor') AND M/s DFCCIL, D-89, Sector-2, Noida, District Gautam Budh Nagar, U.P., (Hereinafter called 'Client').

We, indemnify and save harmless the Railway/DFCCIL from and against all actions, suit proceedings losses, costs, damages, charges, claims and demands of every nature and description brought or recovered against the Railways/DFCCIL by reason of any act or omission of------(Contractor), his agents or employees, in the execution of the works or in his guarding of the same. All sums payable by way of compensation under any of these conditons shall be considered as reasonable compensation to be applied to the actual loss or damage sustained, and whether or not any damage shall have been sustained.

IN WITNESS WHEREOF the Contractor has executed this Bond of Indemnity at Noida, on this..... of 2019.

For and Behalf of
Signature of Witness-1
Name of Witness-1
(in Block Letter)
Address-1

Authorized Signatory

for and Behalf of
Signature of Witness-1
Name of Witness-1
(in Block Letter)
Address-1

Authorized Signatory

Signature of Tenderer

ECS / NEFT / RTGS**MANDATE FORM**

Date: -

To,
Chief General Manager/Noida
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 (<i>S. B. / Current / Cash credit</i>)	
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.

Signature of Tenderer

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/s having its registered office at (*hereinafter referred to as*
`.....') in the capacity of a Joint Partner of the other part.

and

M/s having 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 admit, 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 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/sshall be the lead member of the JV for all intents and purpose and shall represent the

Signature of Tenderer

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 RESPONSIBILITIES

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. BID SECURITIES

Till the award of the work, JV firm/Lead Partner of JV firm shall furnish 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, manpower and other resources.

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.....

M/s.....

.....

.....

(Seal)

(Seal)

Witness

1..... (Name & Address)

2..... (Name & Address)

Notes: (1) In case of existing joint venture, the certified copy of JV Agreement may be furnished.

Signature of Tenderer

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
14. Liability and sharing of risks

15. Insurance

16. Sharing of Promotion and Project Costs, Profits, Losses and Remuneration

17. Financial Administration and Accounting

18. Guarantees and Bonds

19. Arbitration

20. Notices

21. 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

Signature of Tenderer

**PRO-FORMA 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,
The Chief General Manager/Noida Unit,
Dedicated Freight Corridor Corporation of India Limited
D-89, 1st Floor, Sector-2
Noida- 201301.

Gentlemen,

Re: “[Construction of Heavy Haul Research Institute (HHRI) comprising of Administrative & Hostel Block and General Lab including related allied facilities at Sector – 145, Noida]”.

Ref: Your notice for Invitation for Tender No. **CGM/DFCCIL/NOIDA UNIT/CONSTRUCTION OF HEAVY HAUL RESEARCH INSTITUTE (HHRI)/2019/03**

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 authorise to act on our behalf for the purposes of submission of Bid for and authorise to incur 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) **

Signature of Tenderer

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 authorise 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 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 hereby agree to ratify all acts, deeds and 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 2015.

(Signature of authorised Signatory)

Signature of Lead Partner

Signature of JV Partner(s)

.....

.....

(Signature and Name in Block letters of Signatory)

Seal of Company

Witness

Witness 1: Name:

Signature of Tenderer

Address: Occupation:

Witness 1: Name:

Address: Occupation:

**Notes:* i) To be executed by all the partners jointly, in case of a Joint Venture.

Signature of Tenderer

**FORMAT FOR POWER OF ATTORNEY TO LEAD
PARTNER 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 ***“Construction of Heavy Haul Research Institute (HHRI) comprising of Administrative & Hostel Block and General Lab including related allied facilities at Sector – 145, Noida.”***

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/ documents and generally to represent the Joint Venture in all its dealings with the Railway / 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 executant(s) and when it is so required the same should be under common seal affixed in accordance with the required procedure.

Signature of Tenderer

We hereby agree to ratify all acts, deeds and things lawfully done 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 2015

.....

(Signature)

..... (Name in
Block letters of Executants) Seal of Company

Witness 1	
Name:	
Address:	
Occupation:	
Witness 2	
Name:	
Address:	
Occupation:	

PROFORMA FOR TIME EXTENSION

No. _____ Dated: _____

Sub: (i) _____(name of work).
 (ii) Acceptance letter no. _____
 (iii) Understanding/Agreement no. _____

Ref: _____(Quote specific application of Contractor for
 extension to the date received)_____

Dear Sir,

1. The stipulated date for completion of the work mentioned above is _____.From the progress made so far and the present rate of progress, it is unlikely that the work will be completed by the above date (or 'However, the work was not completed on this date').
2. Expecting that you may be able to complete the work, if some more time is given, the competent authority, although not bound to do so, hereby extends the time for completion from_____ to _____.
3. Please note that an amount equal to the liquidated damages for delay in the completion of the work after the expiry of _____(give here the stipulated date for completion with/without any penalty fixed earlier)will be recovered from you as mentioned in Clause, 17-B of the Standard General Conditions of Contract for the extended period, notwithstanding the grant of this extension. You may proceed with the work accordingly.
4. The above extension of the completion date will also be subject to the further condition that no increase in rates on any account will be payable to you.
5. Please intimate within a week of the receipt of this letter your acceptance of the extension of the conditions stated above.
6. Please note that in the event of your declining to accept the extension on the above said conditions or in the event of your failure after accepting or acting upto this extension to complete the work by _____ (here mention the extended date), further action will be taken in terms of Clause 62 of the Standard General Conditions of Contract.

Yours faithfully

For and on behalf of the Employer
 Name of the Official: -
 Stamp/Seal of the Employer

 Signature of Tenderer

CERTIFICATE OF FITNESS

1. (a) Serial Number _____
(b) Date _____
2. Name of person examined _____
I certify that I have personally examined (*name*) _____
3. Father's Name: son/daughter of _____, residing at _____
4. Sex _____
5. Residence: _____
6. Date of birth, if available, and/or certified age _____

Who is desirous of being employed in a factory or on a work requiring manual labour and that his / her age as nearly as can be ascertained from my examination, is _____ years and that he/she is fit for employment in a factory or on a work requiring manual labour as an adult/child.
7. Physical fitness _____
8. Identification marks _____
9. Reasons for:
 (a) refusal to grant certificate, or _____
 (b) revoking the Certificate _____

 Signature or Left Hand
 Thumb Impression of the
 person Examined

 Signature of Certifying Surgeon

Note: In case of physical disability, the exact details of the cause of the physical disability should be clearly stated.

 Signature of Tenderer

Registered Acknowledgement Due

PROFORMA OF 7 DAYS NOTICE

DFCCIL

(Without Prejudice)

To

M/s _____

Dear Sir,

Contract Agreement No. _____

In connection with _____

1. In spite of repeated instructions to you by the subordinate offices as well as by this office in various letters of even no. _____, dated _____; you have failed to start work/show adequate progress and/or submit detailed programme for completing the work.
2. Your attention is invited to this office/Chief Engineer's office letter no. _____, dated _____ in reference to your representation, dated _____.
3. As you have failed to abide by the instructions issued to commence the work/to show adequate progress of work you are hereby given 7 days' notice in accordance with Clause 62 of Standard General Conditions of Contract to commence works / to make good the progress, failing which further action as provided in Clause 62 of the Standard General Conditions of Contract viz. to terminate your Contract and complete the balance work without your participation will be taken.

Kindly acknowledge receipt.

Yours faithfully

For and on behalf of the Employer

Name of the Official:-

Stamp/Seal of the Employer

Signature of Tenderer

PROFORMA OF 48 HRS. NOTICE

DFCCIL

(Without Prejudice)

To

M/s _____

Dear Sir,

Contract Agreement No. _____

In connection with _____

1. Seven days' notice under Clause 62 of Standard General Conditions of Contract was given to you under this office letter of even no., dated _____; but you have taken no action to commence the work/show adequate progress of the work.
2. You are hereby given 48 hours' notice in terms of Clause 62 of Standard General Conditions of Contract to commence works / to make good the progress of works, failing which and on expiry of this period your above contract will stand rescinded and the work under this contract will be carried out independently without your participation and your Security Deposit shall be forfeited and Performance Guarantee shall also be encashed and consequences which may please be noted.

Kindly acknowledge receipt.

Yours faithfully

and on behalf of the Employer

Name of the Official: -

Stamp/Seal of the Employer

Signature of Tenderer

PROFORMA OF TERMINATION NOTICE

DFCCIL

(Without Prejudice)

No. _____ Dated _____

To

M/s _____

Dear Sir,

Contract Agreement No. _____

In connection with _____

Forty eight hours (48 hrs.) notice was given to you under this office letter of even no., _____ dated _____; but you have taken no action to commence the work/show adequate progress of the work.

Since the period of 48 hours' notice has already expired, the above contract stands rescinded in terms of Clause 62 of Standard General Conditions of Contract and the balance work under this contract will be carried out independently without your participation. Your participation as well as participation of every member/partner in any manner as an individual or a partnership firm/JV is hereby debarred from participation in the tender for executing the balance work and your Security Deposit shall be forfeited and Performance Guarantee shall also be encashed.

Kindly acknowledge receipt.

Yours faithfully

and on behalf of the Employer

Name of the Official: -

Stamp/Seal of the Employer

Signature of Tenderer

SAMPLE

FORMAT OF BANK GUARANTEE FOR MOBILISATION ADVANCE

(Clause 1.5.20, Part - I, Chapter - V)

Bank guarantee made on this Between
(hereinafter called “the Bank”) of the One Part and Dedicated Freight Corridor Corporation of India Limited. *(hereinafter called “the Employer”)* of the other Part.

WHEREAS Dedicated Freight Corridor Corporation of India Limited has awarded the Contract no..... for “.....” *(hereinafter called “the Contractor”)*, having its registered office at

AND WHEREAS vide Clause 1.5.20 of Part - I, Chapter V, Special Conditions of Contract, Mobilization Advance up to ____% (____ percent) of the original contract value of Rs..... is payable to the contractor against Bank Guarantees, the contractor hereby applies for Mobilization Advance of ____% (____ percent) amounting to Rs..... /- *(Rupees.....)* of the Contract Price,

Now, we the undersigned, Bank of, being fully authorized to sign and to incur obligations for and on behalf of and in the name of Bank of hereby declare that the said Bank will guarantee the Employer the full amount of Rs. /- *(Rupees.....)* as stated above.

We, Bank of, do hereby unconditionally, irrevocably and without demur guarantee and undertake to pay the Employer immediately on demand any or all money payable by the contractor to the extent of Rs. /- *(Rupees.....)* without any demur, reservation, context, recourse or protest and/or without any reference to the contractor. Any such demand made by the Employer on the Bank shall be conclusive and binding notwithstanding any difference between the Employer and the contractor on any dispute pending before any court, Tribunal, Arbitrator or any other authority. We agree that the guarantee herein contained shall be irrevocable and shall continue to be enforceable till the Employer discharges this guarantee.

This guarantee is valid till

At any time during the period in which this guarantee still valid of the contractor fails to fulfil its obligation under the Contract, it is understood that the Bank will extend this guarantee under the same condition for the required time on demand by the Employer at the cost of the contractor.

The Guarantee hereinbefore contained shall not be affected by any change in the constitution of the Bank or of the contractor.

The neglect or forbearance of the Employer in enforcement of payment of any money, the payment whereof is intended to be hereby secured or the giving of time by the Employer for the payment hereof shall in no way relieve the Bank of their liability under this Deed.

The expressions "the Employer", "the Bank" and "the contractor" hereinbefore used shall include their respective successors and assigns.

Notwithstanding anything contained herein:

Our liability under this Bank Guarantee shall not exceed Rs...../- (*Rupees*.....)

This bank Guarantee shall be valid up to.....

We are liable to pay the guaranteed amount or any part thereof under this Bank Guarantee only and only if you serve upon us a written claim or demand on or before(*date of expiry of Guarantee*).

In witness whereof we of the Bank have signed and sealed this Guarantee on theday of being herewith duly authorized.

For and on behalf of the Bank of.....

Signature of Authorized Bank Official

Name

Designation

Stamp/Seal of the bank

Signed, sealed and delivered for and on

Behalf of the bank by the above named

Signature of Tenderer

..... in the presence of

Witness 1

Signature

Name

Address

Witness 2

Signature

Name

Address

Signature of Tenderer

PRE-CONTRACT INTIGRITY PACT

GENERAL:

This pre-bid contract Agreement (*hereinafter called the Integrity Pact*) is made on _____ day of the month _____ 2016, 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 (*herein after 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 on behalf of the President of India.

NOW, THEREFORE,

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:

Signature of Tenderer

1.0 Commitments of the CLIENT:

- 1.1 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].
- 1.2 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.
- 1.3 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.

- 2.0** In case any such preceding misconduct on the part of such officials(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.

3.0 Commitments of BIDDERS:

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 disfavour 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 defence 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.

4.0 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 BIDDER'S exclusion 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.

5.0 Earnest Money (*Security Deposit*):

5.1 While submitting commercial bid, the [A] shall deposit an amount _____ (*to be specified in RFP*) as Earnest Money/Security Deposit, with the CLIENT through any of the following instruments:

- (i) Bank Draft or a Pay order in favour of _____
- (ii) A confirmed guarantee by an Indian Nationalized Bank, promising payment of the guaranteed sum to the CLIENT on demand within three working days without any demur whatsoever and without seeking any reasons whatsoever. The demand for payment by the CLIENT shall be treated as conclusive proof or payment.
- (iii) Any other mode or through any other instrument (*to be specified in the RFP*).

- 5.2 The Earnest Money/Security Deposit shall be valid upto a period of five years *or* the complete conclusion of the contractual obligations to the complete satisfaction of both the BIDDER and the CLIENT, including warranty period, whichever is later.
- 5.3 In case of the successful [A] a clause would also be incorporated in the Article pertaining to Performance Guarantee in the [B] that the provisions of Sanctions for Violation shall be applicable for 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.
- 5.4 No interest shall be payable by the CLIENT to the [A] on Earnest Money/Security Deposit for the period of its currency.

6.0 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 the [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/warranty bond, if furnished by the [A], in order to recover the payments, already made by the 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 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 stature enacted for prevention of corruption.

6.1 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.

7.0 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/systems or sub systems was supplied by the [A] to any other Ministry/Department of the Government of India or a PSU at a lower price, then that vary 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.

8.0 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 (*Name 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.
- 1.8 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 proposals for correcting problematic situations.

9.0 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.

10.0 Law and Place of Jurisdiction:

This pact is subject to Indian Law. The Place of performance and jurisdiction is the seat of the CLIENT.

11.0 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.

12.0 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.

13.0 The parties hereby sign this Integrity Pact at _____ on _____.

CLIENT:

BIDDER:

Name of the Officer

CHIEF EXECUTIVE
OFFICER

Designation

Deptt/Ministry/PSU

Witness:

Witness:

1. _____ 1. _____

2. _____ 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.

Signature of Tenderer

Format of Bank Guarantee for Security Deposit

Bank Guarantee no.....

Dated.....

To,
Chief General Manager,
Dedicated Freight Corridor Corporation of India Ltd/Noida Unit
D-89, 1st Floor, Sector-2,
Noida-20 1301

Reference: -Contract No....., awarded on

This deed of Guarantee made this day of _____ between _____ (*name of Bank*) having registered office at _____ and branch office at _____ (*hereinafter referred to as "Bank"*) of the one part and Dedicated Freight Corridor Corporation of India Limited (*hereinafter called the Employer*) of the other Part.

Whereas Dedicated Freight Corridor Corporation of India Limited has awarded the Contract no..... for construction of (*hereinafter called "the Contract"*) to M/s..... its registered office at (*hereinafter called "the Contractor"*).

Whereas the contractor is bound by the said Contract to submit to the Employer an irrevocable performance security guarantee bond for a total amount of Rs..... (*Rs. In Words*) only.

Now, we the undersigned (*Name of Bank officials*), of the bank being fully authorized to sign and to incur obligations for and on behalf of the Bank hereby declare that the said Bank will guarantee the Employer the full amount of Rs..... (*Rs. In Words*) as stated above.

After the Contractor has signed the aforesaid contract with the Employer, the Bank further agree and promise to pay the amount due and payable under this guarantee without any demure merely on a demand from the Employer stating that the amount claimed is due by way of loss or damage cause to or would be caused or suffered by the employer 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

Signature of Tenderer

Bank under this guarantee. However, our liability under this guarantee shall be restricted to an amount not exceeding Rs..... (*Rs. in Words*) only.

We..... (*indicate the name of Bank*), further undertake to pay to the Employer any money so demanded notwithstanding any dispute or dispute raised by the contractor in any suit or proceeding pending before any court or Tribunal relating to liability under this present being absolute and unequivocal.

The payment so made by us (*name of Bank*) under this bond shall be a valid discharge of our liability for payment there under and the Contractor shall have no claim against us for making such payment.

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 Employer under or by virtue of the said agreement have been full paid and its claims satisfied or discharged by (*Designation & Address of Contract signing authority*) on behalf of Employer certify that the terms and conditions of the said agreement have been fully and properly carried out by the said contractor and accordingly discharges this guarantee.

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 employer or until (*date of validity/extended validity*) whichever is earlier and no claim shall be valid under the guarantee unless notice in writing thereof is given by the Employer within validity/extended validity period of guarantee from the date aforesaid.

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

We..... (*indicate the name of Bank*), to further agree with the Employer that the Employer shall have the fullest liberty without our consent and without effecting in any manner out of obligation 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 power exercisable by the Employer against the said contractor and to forbear or enforce any of the terms and conditions of the said agreement and we shall not be relieved from our liabilities by reason of such variation, or extension being granted to the said contractor for any bearing act or omission on the part of the Employer or any indulgence by the Employer to

the said contractor 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.

The Guarantee hereinbefore contained shall not be affected by any change in the constitution of Bank or of the Contractor.

The expressions “the Employer”, “the Bank” and “the Contractor” hereinbefore used shall include their respective successors and assigns.

We..... (*Name of the bank*) lastly undertake not to revoke this guarantee during its currency except with the previous consent of the Employer in writing.

Notwithstanding anything to the contrary contained hereinbefore:

- iv) Our liability under this Bank Guarantee shall not exceed and restricted to Rs..... (*Rs. in words*).
- v) This Bank Guarantee shall be valid up to, unless extended on demand by Employer.
- vi) The Bank is liable to pay the guaranteed amount or any part thereof under this Bank Guarantee only if Employer serve a written claim or demand on or before.....

IN WITNESS WHEREOF we of the Bank have signed and stamped this guarantee on this day of being herewith duly authorized.

Bank seal

Signature of Bank Authorize Official with seal

Name.....

Designation:

Address:

Witness:

1. Name:

Designation:

Address:

2. Name:

Designation:

Address:

Signature of Tenderer

Format for Power of Attorney for Authorized representative

Know all men by these presents, We, *[name of organization and address of the registered office]* do hereby constitute, nominate, appoint and authorize Mr/Ms *[name]*, son /daughter/ wife of *[name]*, and presently residing at *[address]*, who is presently employed with/retained by us and holding the position of *[designation]* as our true and lawful attorney (*herein after referred to as the "Authorized Representative"*), with power to sub-delegate to any person, to do in our name and on our behalf, all such acts, deeds and things as are necessary or required in connection with or incidental to submission of our Bid for *[name of assignment]*, to be developed by Dedicated Freight Corridor Corporation of India Ltd. (*the "Authority"*) including but not limited to signing and submission of all applications/bids, proposals and other documents and writings, participating in pre-bid and other conferences and providing information/responses to the Authority, representing us in all matters before the Authority, signing and execution of all contracts and undertakings consequent to acceptance of our bid and generally dealing with the Authority in all matters in connection with or relating to or arising out of our Bid for the said Project and/or upon award thereof to us until the entering into of the Contract with the Authority.

AND, we do hereby agree to ratify and confirm all acts, deeds and things lawfully done or caused to be done by our said Authorized Representative pursuant to and in exercise of the powers conferred by this Power of Attorney and that all acts, deeds and things done by our said Authorized Representative in exercise of the powers hereby conferred shall and shall always be deemed to have been done by us.

IN WITNESS WHEREOF WE, *[name of organization]*, THE ABOVE NAMED PRINCIPAL HAVE EXECUTED THIS POWER OF ATTORNEY ON THIS *[date in words]* DAY OF *[month]* *[year in 'yyyy' format]*.

For *[name and registered address of organization]* *[Signature]*

[Name]

[Designation]

Witnesses:

1. *[Signature, name and address of witness]*

2. *[Signature, name and address of witness]*

Accepted

[Signature]

[Name]

[Designation] [Address]

Notes:

1. 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 seal affixed in accordance with the required procedure.
2. Wherever required, the Bidder should submit for verification the extract of the charter documents and other documents such as a resolution/power of attorney in favour of the person executing this Power of Attorney for the delegation of power hereunder on behalf of the Bidder.

NO DEVIATION CERTIFICATE

(To be typed and submitted in the Letter Head of the Company/Firm of Bidder)

To,

(Write Name & Address of Officer of DFCCIL inviting the Tender)

Dear Sir,

Sub:No Deviation Certificate.

Ref: 1) NIT/Tender Specification No:,

2) All other pertinent issues till date

We hereby confirm that we have not changed/ modified/materially altered any of the tender documents as downloaded from the website/ issued by DFCCIL and in case of such observance at any stage, it shall be treated as null and void.

We also hereby confirm that we have neither set any Terms and Conditions and nor have we taken any deviation from the Tender conditions together with other references applicable for the above referred NIT/Tender Specification.

We further confirm our unqualified acceptance to all Terms and Conditions, unqualified compliance to Tender Conditions, Integrity Pact.

We confirm to have submitted offer in accordance with tender instructions and as per aforesaid references.

Thanking you,

Yours faithfully,

(Signature, date & seal of authorized
representative of the bidder)

Signature of Tenderer

GUARANTEE BOND BY THE CONTRACTOR
FOR REMOVAL OF DEFECTS AFTER COMPLETION IN RESPECT OF
WATER-PROOFING WORKS/ANTI TERMITE TREATMENT
(All Water Proofing Items/Anti Termite items)

The agreement made this..... day of (*Two Thousand only*)
DFCCIL/NOIDA UNIT between S/o..... (*hereinafter called the GUARANTOR of the one part*) and the PRESIDENT OF INDIA (*hereinafter called the Government of the other part*)

WHEREAS THIS agreement is supplementary to a contract (*hereinafter called the Contract*) dated and made between the GUARANTOR OF THE ONE PART AND the Government of the other part whereby the contractor inter alia undertook to render the building and structures in the said contract recited completely water and leak-proof, Termite Proof.

AND WHEREAS THE GUARANTOR agreed to give a guarantee to the effect that the said work will remain water and leak proof, Termite Proof for ten years from the date of completion of work.

NOW THE GUARANTOR hereby guarantees that work executed by him will render the structures completely leak proof, Termite Proof and the minimum life of such water proofing treatment/Anti Termite Treatment shall be ten years to be reckoned from the date of completion of work.

The decision of the Engineer with regard to nature and cause of defect shall be final and binding on Guarantor.

During this period of guarantee, the guarantor shall make good all defects and in case of any defect being found render the building *water proof/anti termite(as per clause no. 5.8.1.b)* to the satisfaction of the Engineer calling upon him to rectify the defects failing which the work shall be got done by the Department by some other contractor at the Guarantor's cost and risk. The decision of the Engineer as to the cost payable by the Guarantor shall be final and binding.

That if the guarantor fails to execute the water proofing/anti termite treatment and fails to control all kinds of leakage and seepage or commits breach there under, then the guarantor will indemnify the principal and his successor against all loss, damage, cost expense or otherwise which may be incurred by him by reason of any default on the part of the GUARANTOR in performance and observance of this supplementary agreement. As to the amount of loss and/or damage and / or cost incurred by the Government, the decision of the Engineer will be final and binding on both the parties.

IN WITNESS WHEREOF these presents have been executed by the obligator and DFCCIL/Noida by

DFCCIL/ Noida Unit for and on behalf of the PRESIDENT OF INDIA on the day, month and year first above written.

SIGNED, sealed and delivered by OBLIGATOR in the presence of: -

1.....

2.

SIGNED FOR AND BEHALF OF THE PRESIDENT OF INDIA BY in

the presence of:-

1.....

2.....

PART-IV
DRAWINGS

*(Drawings have been uploaded separately
in the E-Tender portal)*

******END of Tender Document******