

Name of Work: Construction of New Civil Enclave at Jammu Airport (Phase-I).

SH: Construction of Apron and associated works for parking of 13 Nos. AB- 321 type of Aircraft.

(Tender ID: 2023_AAI_173064_1)

TENDER DOCUMENT



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**AIRPORTS AUTHORITY OF INDIA
ENGINEERING WING
RAJIV GANDHI BHAWAN
SAFDARJUNG AIRPORT
NEW DELHI - 110003**

INDEX

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Sl. No.	Description	Total pages
1.	Notice Inviting e-Tender	1-8
2.	General Instructions for Online Bid Submission (Appendix-A)	9-12
3.	Procedure for Online Collection of EMD and Tender Fee from Bidder	13-33
4.	General Guidelines for the Bidders	34-45
5.	PQ Performa to be filled by bidder	46-49
6.	General Conditions of Contract	50-193
7.	Special Conditions of Contract (Civil)	194-207
8.	Special Conditions of Contract (Electrical)	208-213
9.	Forms & Annexures	214-241
10.	Technical Specifications (Civil)	242-310
11.	Technical Specifications (Electrical)	311-315
12.	List of Preferred Makes (Civil)	316-320
13.	List of Preferred Makes (Electrical)	321
14.	Tender Drawings	322-324
15.	Schedule of Quantities	325-328
		328

THIS TENDER DOCUMENT CONTAINS TOTAL PAGES 328 DETAILED ABOVE.

AIRPORTS AUTHORITY OF INDIA
CORPORATE HEADQUARTERS,
DIRECTORATE OF ENGINEERING-NR
RAJIV GANDHI BHAWAN,
SAFDARJUNG AIRPORT, NEW DELHI

NOTICE INVITING e-TENDER (2 BOT - 2 Envelope Open Tender)
(Tender Reference No.: AAI/CHQ/ED/ENGG/NR/JAMMU/APRON)
[Tender ID -2023_AAI_173064_1]

1. Item Rate e-tenders are invited through the e-tendering CPP Portal by Asstt. General Manager (Engg-Civil)-NR (Bid Manager), Airports Authority of India, O/o Executive Director (Engg.)-NR, Corporate Head Quarters, B-Block, 3rd Floor, Rajiv Gandhi Bhawan, Safdarjung Airport, New Delhi-110003, on behalf of Chairman, AAI from the eligible contractors for the work of **“Construction of New Civil Enclave at Jammu Airport(Phase-I). SH: Construction of Apron and associated works for parking of 13 Nos. AB-321 type of Aircraft”** at an estimated cost of Rs. 57.60 Crores (excluding GST) with completion period of 18 months including 2 months considered for rains.

The tendering process is online at CPP-portal URL address <https://etenders.gov.in/eprocure/app> or www.aai.aero. Prospective Tenderers may download and go through the tender document.

Prospective Tenderers are advised to register themselves at CPP-portal, obtain ‘Login ID’ and ‘Password’ and go through the instructions available in the Home Page after log in to the CPP-portal <https://etenders.gov.in/eprocure/app> or www.aai.aero. They should also obtain Digital Signature Certificate (DSC) in parallel which is essentially required for submission of their application. The process normally takes 03 days’ time. The tenderer may also take guidance from AAI Help Desk Support through path aai.aero/tender/e-tender/helpdesk/support.

- i) For any technical related queries please call the Helpdesk. The 24 x 7 Help Desk details are as below: -
Tel: 0120-4200462, 0120-4001005, 0120-6277787,
E-mail: support-eproc@nic.in

Tenderers are requested to mention the URL of the Portal and Tender ID in the subject while emailing any issue along with the contact details.

- ii) For any further technical assistance with regard to functioning of CPP portal the tenderer may contact to the following AAI help desk numbers on all working days only between
- 08.00 hrs to 20.00 hrs (Mon-Sat)-
011-24632950, Ext-3512 (Six Lines), E-Mail: eprocurehelp@aai.aero
 - 09.30 hrs to 18.00 hrs (Mon-Fri)-
011-24632950 Ext-3523,
E-Mail: etendersupport@aai.aero, sanjeevkumar@aai.aero
 - 09.30 hrs to 18.00 hrs (Mon-Fri)-
011-24657900, E-Mail: - gmitichq@aai.aero

Tender processing fee of Rs 11,800/- (i/c GST), Non-refundable will be required to be paid online on CPP Portal only.

Earnest Money Deposit (EMD) of **Rs. 82.60 Lakhs** will be required to be paid online on CPP portal. Contractors may have the option to submit EMD in the form of Insurance Surety Bonds or Bank Guarantee (BG) -paper form from a Nationalized or any scheduled bank but not from Co-Operative or Gramin/ Rural bank (scheduled or Non-scheduled banks), if EMD amount is more than 10.00 lacs.

The Bank Guarantee (PBG/BG-SD/FBG) in accordance with the bank details as:

CORPORATE NAME	:	AIRPORTS AUTHORITY OF INDIA
BANK NAME	:	ICICI BANK
IFSC CODE	:	ICIC0000007
BG ADVISING MESSAGE	:	IFN 760COV (BG ISSUE) IFN 767COV (BG AMENDMENT).
UNIQUE IDENTIFIER CODE (7037)	:	AAICORHQ

Please note that under no circumstances bid procedure related queries shall be referred to the Independent External Monitors (IEMs).

2. Following 2 envelopes shall be submitted through online at CPP-portal by the tenderer as per the following schedule: -

CRITICAL DATA SHEET

Publishing Date	16.11.2023
Bid Document Download / Sale Start Date	17.11.2023 from 0930 hrs.
Clarification Start Date	17.11.2023 from 0930 hrs.
Clarification End Date	24.11.2023 upto 1800 hrs.
Bid Submission Start Date	30.11.2023 from 0930 hrs.
Bid Submission End Date	13.12.2023 upto 1700 hrs.
Last date and time of submission of Original Insurance Surety Bond or BG against EMD, if not paid online on CPP Portal	18.12.2023 upto 1700 hrs
Bid Opening Date (Envelope- I)	19.12.2023 upto 1100 hrs
Bid Opening Date (Envelope- II)	03.01.2024 at 1100 hrs.
Tender Processing Fee (Non-refundable)	Rs. 11,800.00 (i/c GST) Non-refundable.
Earnest Money Deposit (EMD)	Rs. 82.60 Lakhs through online mode or in the form of Bank Guarantee or Insurance Bond.

Envelope-I (EMD, if not paid online on CPP Portal, Technical Bid and Prequalification): - Bid containing following:

A. EMD, if not paid online on CPP Portal:

Scanned copy of Insurance Surety Bond/ BG against EMD with copy of the SFMS (Structured Financial Messaging System) BG confirmation message sent by the BG issuing bank to ICICI bank, if EMD not paid online on CPP Portal (as per Annexure-1B) along with letter of undertaking (as per Annexure-1C).

B. Technical Bid containing the following: -

- i) Scanned copy of Tender Acceptance Letter on Bidder's Letter Head. (As per Annexure-2)
- ii) Scanned copy of Permanent Account Number (PAN) and GST Registration Number
- iii) Scanned copy of 'Undertaking' regarding Blacklisting/ Debarment on Bidder's Letter Head. (As per Annexure-3)
- iv) Scanned copy of Form- A - details of similar works completed during last seven years with completion certificate issued by client.
- v) Scanned copy of Form- B - Financial Information (Turnover).
- vi) Scanned copy of Form- C - Net Worth.
- vii) Scanned copy of Form- D- Financial Data (Work done during last 5 years)
- viii) Scanned copy of Form- E- Work in Hand.
- ix) Scanned copy of Signed Integrity Pact (As per Appendix XVIII of GCC).
- x) Bid Capacity: Financial bids of the tenderer will only be opened if their available bid capacity is more than Rs. 57.60 crores. Available bid capacity will be calculated based on the following formula.

Available Bid Capacity: - $B = 2NT - A$

Where,

B = is the bidding capacity

N = Maximum value of works executed in any one year during the last 5 (five) years (updated the completed works to current costing level of enhancing at a simple rate of interest @7% per annum).

T = is the numbers of years prescribed for completion of the work in question (i.e. 18 Months i.e. 1.5 Years).

A = is the value of the existing commitments and ongoing works to be completed in the next 'T' years.

Note: Bid capacity of the tenderer and value of existing commitments for ongoing works during period of 18 Months i.e. 1.5 Years w.e.f. bid submission end date has to be submitted by the tenderer as per the prescribed performance mentioned at Form-D & Form-E. These data (Bid Capacity calculation sheet along with Form-D & Form-E) shall be certified by the Chartered Accountant/ Company Auditor with his stamp and signature in original with membership number and UDIN number.

- xi) Bidder shall submit scanned copy of 'Undertaking' on company's Letter Head that I/We will deploy sufficient plant and machinery as per the requirement of work in consultation with the Engineer-in-Charge (EIC) to achieve the milestones/targets and overall completion within the time period. (As per Annexure 4).
- xii) Bidders other than proprietary firm shall submit scanned copy of Authorization Letter/Power of Attorney along with copy of Certificate of Incorporation of the Company under Companies Act showing CIN/LLPIN/Name of Directors of the Company and copy of Board Resolution regarding Authority to assign Power of Attorney.
Proprietary firm shall submit scanned copy of Authorization letter/ power of attorney only if tender is processed by a person other than proprietor.
- xiii) Pre-qualification (PQ) Performa duly filled with details, Page nos. of PDF of document etc.

- xiv) Declaration of Compliance to the OM issued by Government of India, Ministry of Finance, Department of Expenditure, vide file number PPD -6/18/2019-PPD Dated 23rd July 2020 on the subject "Restrictions under Rule 144 (xi) of the General Financial Rules (GFRs)" and "Exclusion from restrictions under Rule 144 (xi) of the General Financial Rules (GFRs), 2017 with up to date amendments. (As per Annexure 5).

C. Qualifying requirements of contractors / tenderers containing the following: -

- i) Should have satisfactorily completed (# Phase/Part completion of the scope of work in a contract shall not be considered, however pre-determined phasing of the work will be accepted) three works, each of Rs. 23.04 crores or two works, each of Rs 28.80 crores or one work of Rs 46.08 crores in single contract of similar nature. The similar nature of work means Rigid/Flexible pavement works in Airfields / National Highways / Expressways / Harbour Pavements / State Highways with MORTH Specifications during last seven years ending on last day of month previous to the one in which tender is invited i.e. 31.10.2023.

The details of similar works completed during last seven years shall be submitted in the given format i.e. Form-A with supporting documents issued by client.

Note:

- a) The Experience Certificates of works completed pre-GST era, Completion amount will be divided by 1.12 (to exclude pre-GST taxes) to make it at par with experience certificates of post GST era but excluding GST.
- b) Experience gained by executing work on back-to-back contract/ Sub-contract basis is acceptable in the following conditions:
- i) Work should be actually executed by the second agency (sub-contractor) with due concurrence of the owner as tripartite agreement/ written approval. It should be backed by valid agreement and experience certificate.
- ii) Payments received by second agency should be reflected in TDS certificates.
- c) Experience gained in composite works for the specialized nature of works were executed by main contractor either by in-house expertise & experience or by engaging the specialized agencies with the approval of main client as per contract conditions. In such cases, main contractor as well as specialized agency both get the experience certificate for the same work from their respective client(s) i.e. main contractor for composite work along with specialized works from owner and specialized agency for specialized work(s) from the main contractor.

In this situation, the experience certificate of either specialized agency or main agency having in-house expertise & experience, who has actually executed the specialized work(s), shall be considered for

Technical /Pre-qualifying criteria in similar specialized nature of work(s).

“The value of executed works shall be brought to current costing level by enhancing the actual value of work at simple rate of 7% per annum, calculated from the date of completion to previous day of last day of submission of bids.

Client certificate for experience should show the nature of work done, the value of work, date of start, date of completion as per agreement, actual date of completion and satisfactory completion of work. Tenderers showing work experience certificate from non-government/non-PSU organizations should submit copy of tax deduction at sources (TDS) certificate(s) along with a certificate issued by registered Chartered Accountant, clearly specifying the name of work, total payment received against the work and TDS amount for the work.

- ii) Should have annualized average financial turnover of Rs. 17.28 Crores (As per Form-B) on construction works during last three years ending 31st March of the previous financial year i.e. 31.03.2023. The Financial Information should be submitted in the given format – Form-B. As a proof, copy of Abridged Balance Sheet along with Profit and Loss Account Statement of the tenderer should be submitted along with the application duly certified with CA with UDIN number.

Tenderers showing continuous losses during the last three years in the balance sheet shall be summarily rejected.

- iii) The tenderer should have a minimum net worth of Rs 8.64 Crores, issued by certified Chartered Accountants. The Certificate should be submitted in the given format – Form - C.

d) Certificates of Subsidiary/Group Companies:

If any foreign/Indian subsidiary company/firm of foreign/Indian principal company / firm, having functioning in the relevant field, participates in the tendering process and claims the experience in specific field of another foreign /Indian subsidiary company / firm of the same foreign/Indian principal company /firm or on the basis of experience of foreign /Indian principal company /firm, the bidding foreign / Indian subsidiary company/ firm on the basis of such experience shall be qualified and considered for further evaluation in the tendering process subject to submission of:

(i) Documentary evidence which proves that both the foreign / Indian companies / firms are indeed 100% wholly owned subsidiaries or branch of the same foreign/ Indian principal company/ firm.

ii) An undertaking from the foreign / Indian principal company / firm that they will provide all required technical support, technical know-how and will take full responsibility and liability of bidding foreign / Indian subsidiary company / firm or branch till the successful completion of project including defects liability / warrantee / guarantee period as per Annexure –12.

(iii) Balance sheet showing equity holdings or certificate by the company Chartered Accountant / Auditor of foreign / Indian principal company/ firm showing equity holding patterns between the foreign/ Indian principal company / firm and their wholly owned foreign/ Indian subsidiary companies / firms or a duly notarized certificate by the foreign / Indian principal company / firm that company(ies) / firm (s) are their wholly owned subsidiary(ies) / branch (es) and subsidiary company / branch may be allowed to participate in the AAI tender

(iv) Consolidated Audited Balance Sheet of foreign/ Indian Principal company / firm.

(v) Foreign/Indian principal company/firm shall also undertake that the said work experience credentials have not been used by any of their other foreign/Indian subsidiary company/firm or by them, i.e., the principal company/ firm itself for the same tender

(vi) In case above statement /undertaking under above para (v) is found violated, the application of company / firm tenderer, who had submitted the work experience credentials of other foreign / Indian subsidiary/ principal company / firm along with required undertaking from their foreign / Indian principal company / firm (as per Annexure-12) as well as the applications of the foreign / Indian principal company / firm & it's other foreign / Indian subsidiary(ies) for the same tender shall be summarily rejected and their entire EMD amounts shall be forfeited Certificates of Subsidiary/Group Companies:

Scanned copy of all the Documents of Envelope-I mentioned above shall be submitted on the CPP portal.

If EMD not paid online on CPP Portal, Original/Hard Copies of BG/ Insurance Surety Bond against EMD and copy of the SFMS BG confirmation message sent by the BG issuing Bank to ICICI Bank along with letter to the issuing bank as per the format mentioned in Annexure-1B and letter of undertaking from the Depositor to Bank as per "Annexure-1C" duly acknowledged by bank is required to be submitted/sent to the Sh. Satyendra Singh, Asstt. General Manager (Engg.-Civil) (Bid Manager), Airports Authority of India, O/o Executive Director (Engg.)-NR, Corporate Head Quarters, B-Block, 3rd Floor, Rajiv Gandhi Bhawan, Safdarjung Airport, New Delhi-110003 on or before date & time mentioned in CRITICAL DATA SHEET. The bidder, whose Insurance Surety Bond/ BG against EMD are not received by the date & time mentioned in critical data sheet, then their tenders will be liable to be rejected. Any postal delay will not be entertained.

Envelope-II: - The Financial e-Bid through CPP portal.

All rates shall be quoted in the format provided and no other format is acceptable. If the price bid has been given as a standard BOQ format with the tender document, then the same is to be downloaded and to be filled by all the tenderers. Tenderers are required to download the BOQ file, open it and complete the blue coloured (unprotected) cells with their respective financial quotes and other details (such as name of the tenderer). No

other cells should be changed. Once the details have been completed, the tenderer should save it and submit it online, without changing the filename. If the BOQ file is found to be modified by the tenderer, the bid will be rejected.

3. **Refund of EMD**

EMD amount of the rejected/unsuccessful bidders will be refunded to their source account after submission of Technical / Financial evaluation report on CPP portal by Bid Manager. EMD submitted in the form of Insurance Surety Bond / BG shall be returned by post.

4. **Bid Submission: -**

The tenderer shall submit their application only at CPP Portal: <https://etenders.gov.in/eprocure/app>. Tenderer/Contractor are advised to follow the instructions provided in the tender document for online submission of bids. Tenderers are required to upload the digitally signed file of scanned documents as per Para 2. Bid documents may be scanned with 100 dpi with black and white option which helps in reducing size of the scanned document.

Uploading of application in location other than specified above shall not be considered. Hard copy of application shall not be entertained.

5. Not more than one tender shall be submitted by one tenderer or tenderers having business relationship. Under no circumstance will father and his son(s) or other close relations who have business relationship with one another (i.e. when one or more partner(s)/director(s) are common) be allowed to tender for the same contract as separate competitors. A breach of this condition will render the tenders of both parties liable to rejection.

6. Tenderer who has downloaded the tender from Central Public Procurement Portal (CPPP) website <http://etenders.gov.in/eprocure/app>, shall not tamper/modify the tender form including downloaded price bid template in any manner. In case, if the same is found to be tampered/modified in any manner, tender will be completely rejected and EMD would be forfeited and tenderer is liable to be banned from doing business with AAI.

7. **Bids Opening Process is as below: -**

Envelope-I (EMD, Technical bid and Pre-qualification):

Envelope-I containing documents as per Para 2 (A), (B), (C) and (D) as applicable (uploaded by the tenderers) shall be opened on date & time mentioned in CRITICAL DATA SHEET.

If the bidder has any query related to the Bid Document of the work, they should use 'Seek Clarification' on CPP portal to seek clarifications. No other means of communication in this regard shall be entertained.

If any clarification is needed from the tenderer about the deficiency in his uploaded documents in Envelope - I, he will be asked to provide it through CPP Portal, if required. The tenderer shall upload the requisite clarification/documents within time specified by AAI, failing which it shall be presumed that bidder does not have anything to submit and bid shall be evaluated accordingly.

The intimation regarding acceptance/rejection of their bids will be intimated to the tenderers through CPP portal.

Envelope-II (Financial Bid):

Envelope-II containing financial bid of the tenderers found to be meeting the technical criteria and qualifying requirements shall be opened on date & time mentioned in CRITICAL DATA SHEET. (In case the date and time for opening of Envelope-II (Financial bid) is required to be changed, the same shall be intimated through CPP Portal).

8. AAI reserves the right to accept or reject any or all applications without assigning any reasons. AAI also reserves the right to call off tender process at any stage without assigning any reason.
9. AAI reserves the right to disallow the working agencies whose performance at ongoing project (s) is below par and usually poor and has been issued letter of restrain/Temporary or Permanent debarment/black listing by any department of AAI or Central /State Govt. Depts./PSUs/World Bank/ ADB etc. AAI reserves the right to verify the credential submitted by the tenderer at any stage (before or after the award the work). If at any stage, any information /documents submitted by the applicant is found to be incorrect/false or have some discrepancy which disqualifies the tenderer then AAI shall take the following action:
 - a) Forfeit the entire amount of EMD submitted by the tenderer.
 - b) The Tenderer shall be liable for debarment from tendering in AAI, including termination of the contract apart from any other appropriate contractual/legal action
10. Consortium/JV companies if any, shall not be permitted.
11. Purchase preference to Central Public Sector Undertaking shall be applicable as per the directive of Govt. of India prevalent on the date of acceptance.
12. Concessions to Indian Micro & Small Enterprises (MSEs) units registered with DIC/NSIC/KVIC/KVIB/Directorate of Handicraft and Handloom etc., to be given as per the provisions of Public Procurement Policy for MSEs order 2012 with up to date amendments, shall be applicable for tenders of supply/services and shall not be extended to construction work.
13. Tenderers have to submit Unique Document Identification Number (UDIN) generated documents like Balance Sheet / Turnover certificate, Working Capital Certificate (works done during last 5 financial years & works in hand), Net worth Certificate, Tax Deduction at Source (TDS) Certificates for Non- Govt. works etc. as per NIT conditions duly certified by CA and having UDIN. The documents submitted by bidders without UDIN shall not be entertained.

Asstt. General Manager (Engg-C)
Bid Manager
(For and on behalf of the Chairman)
Airports Authority of India
B- Block, 3rd floor, Engineering Wing
Rajiv Gandhi Bhawan, Safdarjung Airport,
New Delhi-110003, INDIA

IMPORTANT NOTES:

i) For determining eligibility of tenderer in terms of experience certificate and financial turnover, completion cost shall be considered exclusive of GST, ESI, PF cost. The Bidder shall give undertaking mentioning whether the GST/Pre GST Taxes, ESI & PF are included in the completion cost or not in the client completion certificate, If included, the bidder shall mention the percentage/ break up cost of these components.

ii) In case of non-submission of required undertaking, AAI shall determine GST/Pre GST Taxes, ESI & PF components as per CPWD / AAI guidelines amended from time to time and shall carry out further evaluation accordingly.

General Instructions for Online Bid Submission:

The bidders are required to submit soft copies of their bids electronically on the CPP Portal, using valid Digital Signature Certificates. The instructions given below are generally meant to assist the bidders in registering on the CPP Portal, prepare their bids in accordance with the requirements and submitting their bids online on the CPP Portal.

More information useful for submitting online bids on the CPP Portal may be obtained at: <http://etenders.gov.in/eprocure/app>

REGISTRATION

- 1) Bidders are required to enroll on the e-Procurement module of the Central Public Procurement Portal (URL: <http://etenders.gov.in/eprocure/app>) by clicking on the link "**Online bidder Enrollment**" on the CPP Portal which is free of charge.
- 2) As part of the enrolment process, the bidders will be required to choose a unique username and assign a password for their accounts.
- 3) Bidders are advised to register their valid email address and mobile numbers as part of the registration process. These would be used for any communication from the CPP Portal.
- 4) Upon enrolment, the bidders will be required to register their valid Digital Signature Certificate (Class II or Class III Certificates with signing key usage) issued by any Certifying Authority recognized by CCA India (e.g. Sify / nCode / eMudhra etc.), with their profile.
- 5) Only one valid DSC should be registered by a bidder. Please note that the bidders are responsible to ensure that they do not lend their DSC's to others which may lead to misuse.
- 6) Bidder then logs in to the site through the secured log-in by entering their user ID / password and the password of the DSC / e-Token.

SEARCHING FOR TENDER DOCUMENTS

- 1) There are various search options built in the CPP Portal, to facilitate bidders to search active tenders by several parameters. These parameters could include Tender ID, Organization Name, Location, Date, Value, etc. There is also an option of advanced search for tenders, wherein the bidders may combine a number of search parameters such as Organization Name, Form of Contract, Location, Date, Other keywords etc. to search for a tender published on the CPP Portal.
- 2) Once the bidders have selected the tenders they are interested in, they may download the required documents / tender schedules. These tenders can be moved to the respective 'My Tenders' folder. This would enable the CPP Portal to intimate the bidders through SMS / e-mail in case there is any corrigendum issued to the tender document.
- 3) The bidder should make a note of the unique Tender ID assigned to each tender, in case they want to obtain any clarification / help from the Helpdesk.

PREPARATION OF BIDS

- 1) Bidder should take into account any corrigendum published on the tender document before submitting their bids.

- 2) Please go through the tender advertisement and the tender document carefully to understand the documents required to be submitted as part of the bid. Please note the number of covers in which the bid documents have to be submitted, the number of documents - including the names and content of each of the document that need to be submitted. Any deviations from these may lead to rejection of the bid.
- 3) Bidder, in advance, should get ready the bid documents to be submitted as indicated in the tender document / schedule and generally, they can be in PDF / XLS / RAR / DWF formats. There is no limit on the size of the file uploaded at the server end. However, the upload is decided on the Memory available at the Client System as well as the Network bandwidth available at the client side at that point of time. In order to reduce the file size, bidders are suggested to scan the documents in 75-100 DPI so that the clarity is maintained and also the size of file also gets reduced. This will help in quick uploading even at very low bandwidth speeds.
- 4) To avoid the time and effort required in uploading the same set of standard documents which are required to be submitted as a part of every bid, a provision of uploading such standard documents (e.g. PAN card copy, annual reports, auditor certificates etc.) has been provided to the bidders. Bidders can use "My Space" or "Other Important Documents" area available to them to upload such documents. These documents may be directly submitted from the "My Space" area while submitting a bid, and need not be uploaded again and again. This will lead to a reduction in the time required for bid submission process.

SUBMISSION OF BIDS

- 1) Bidder should log into the site well in advance for bid submission so that they can upload the bid in time i.e. on or before the bid submission time. Bidder will be responsible for any delay due to other issues.
- 2) The bidder has to digitally sign and upload the required bid documents one by one as indicated in the tender document.
- 3) Bidder has to select the payment option as "offline" to pay the EMD and enter details of the instrument.
- 4) Bidder should prepare the EMD as per the instructions specified in the tender document. The original should be posted/couriered/given in person to the concerned official, latest by the last date of bid submission or as specified in the tender documents. The details of the DD/any other accepted instrument, physically sent, should tally with the details available in the scanned copy and the data entered during bid submission time. Otherwise the uploaded bid will be rejected.
- 5) Bidders are requested to note that they should necessarily submit their financial bids in the format provided and no other format is acceptable. If the price bid has been given as a standard BOQ format with the tender document, then the same is to be downloaded and to be filled by all the bidders. Bidders are required to download the BOQ file, open it and complete the blue coloured (unprotected) cells with their respective financial quotes and other details (such as name of the bidder). No other cells should be changed. Once the details have been completed, the bidder should save it and submit it online, without changing the filename. If the BoQ file is found to be modified by the bidder, the bid will be rejected.
- 6) The server time (which is displayed on the bidders' dashboard) will be considered as the standard time for referencing the deadlines for submission of the bids by the bidders, opening of bids etc. The bidders should follow this time during bid submission.
- 7) All the documents being submitted by the bidders would be encrypted using PKI encryption techniques to ensure the secrecy of the data. The data entered cannot be

viewed by unauthorized persons until the time of bid opening. The confidentiality of the bids is maintained using the secured Socket Layer 128 bit encryption technology. Data storage encryption of sensitive fields is done. Any bid document that is uploaded to the server is subjected to symmetric encryption using a system generated symmetric key. Further this key is subjected to asymmetric encryption using buyers/bid openers public keys. Overall, the uploaded tender documents become readable only after the tender opening by the authorized bid openers.

- 8) The uploaded tender documents become readable only after the tender opening by the authorized bid openers.
- 9) Upon the successful and timely submission of bids (i.e. after Clicking “Freeze Bid Submission” in the portal), the portal will give a successful bid submission message & a bid summary will be displayed with the bid no. and the date & time of submission of the bid with all other relevant details.
- 10) The bid summary has to be printed and kept as an acknowledgement of the submission of the bid. This acknowledgement may be used as an entry pass for any bid opening meetings.

ASSISTANCE TO BIDDERS

Any bid related issue/ query pertaining to technical support or otherwise on CPP portal ([URL:- https://etender.gov.in/eprocure/app](https://etender.gov.in/eprocure/app)) for submission of tender documents should be addressed to AAI Help Desk Support (details also mentioned in the web-NIT) as below:

- (i) Call Helpdesk. 24 x 7 Help Desk Number Tel: 0120-4200462, 0120-4001005, 0120-6277787, E-mail: support-eproc@nic.in
Bidders are requested to mention the URL of the Portal and Tender ID in the e-mail sent along with their contact details.
- (ii) For any further technical assistance with regard to functioning of CPP portal, the bidder should contact personnel at following AAI help desk numbers on all working days as below:
08.00 hrs. to 20.00 hrs. (Mon – Sat)
011-24632950, Ext – 3512 (Six Lines), e-mail – eprochelp@aai.aero
0930 hrs. to 1800 hrs. (Mon – Fri)
011-24632950, Ext – 3523, e-mail: etenderssupport@aai.aero, sanjeevkumar@aai.aero, snita@aai.aero
0930 hrs. to 1800 hrs. (Mon – Fri)
011-24657900, e-mail: gmitqh@aai.aero

In case of technical support regarding e-tender portal, if the AAI Help Desk is non responsive the Bid Manager can be contacted as below on all working days from 0930 hrs. to 1800 hrs.

Name	:	Satyendra Singh
Telephone No.	:	011-24342517
Mobile No.	:	9810762595
E-mail ID	:	satyendras@aai.aero

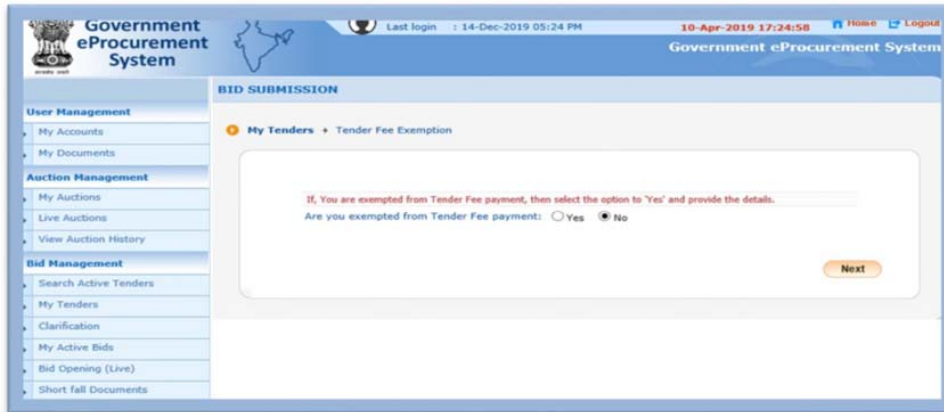
All bid procedure related queries be referred to HELP DESK as above and then to Bid Manager only.

Please note that under no circumstances bid procedure related queries shall be referred to the Independent External Monitors (IEMs).

The procedure for online submission of Tender Processing Fee and Earnest Money Deposit is explained in corresponding section.

Procedure for Online Collection of EMD and Tender Fee from Bidders

1. Bidder will login to the portal <https://etenders.gov.in/> with valid User ID (i.e. User ID mapped with Digital Signature Certificate) and follow the process of participation to the tender.
2. After Login search the tender in “Search Active Tender” tab with different criteria after that click on “set as favorite” to move on “My Tender”. Then click on “My tender” and view the tender details and click on proceed for Bid Submission.
3. For submission of online Tender Fee and EMD, click on Button as “Pay Online”
4. **In case of Tender Fee:** If the Bidder is exempted from the tender fee payment, then select the option to “Yes” other wise “NO” as per below screenshot:

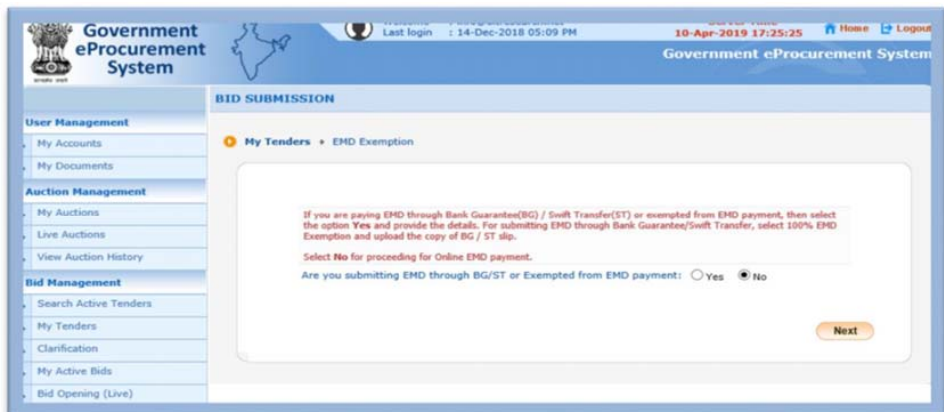


The screenshot shows the 'Government eProcurement System' interface. The main content area is titled 'BID SUBMISSION' and contains a form for 'Tender Fee Exemption'. The form text reads: 'If, You are exempted from Tender Fee payment, then select the option to 'Yes' and provide the details.' Below this, there is a question: 'Are you exempted from Tender Fee payment: Yes No'. A 'Next' button is located at the bottom right of the form area. The left sidebar contains navigation menus for 'User Management', 'Auction Management', and 'Bid Management'. The top header shows the system name, a map of India, and user information including 'Last login : 14-Dec-2019 05:24 PM' and '10-Apr-2019 17:24:58'.

5. **In case of EMD:** If Bidder is paying EMD through any of below options, Select the option “Yes” (as per below screenshot) and provide the details and upload copy as a proof.
 - **Bank Guarantee (BG)/Swift Transfer (ST)**
 - **Exempted from EMD Payment,**

*Note: For submitting “EMD through BG/ST” or “Exemption from EMD payment” bidder must select “Yes” otherwise bidders will not have the option to pay EMD through **Bank Guarantee**. Once proceeded it is not possible to revert the option.*

6. Select option “NO” (as per below screenshot) for proceeding for Online EMD payment.



The screenshot shows the 'Government eProcurement System' interface. The main content area is titled 'BID SUBMISSION' and contains a form for 'EMD Exemption'. The form text reads: 'If you are paying EMD through Bank Guarantee(BG) / Swift Transfer(ST) or exempted from EMD payment, then select the option Yes and provide the details. For submitting EMD through Bank Guarantee/Swift Transfer, select 100% EMD Exemption and upload the copy of BG / ST slip.' Below this, there is a question: 'Are you submitting EMD through BG/ST or Exempted from EMD payment: Yes No'. A 'Next' button is located at the bottom right of the form area. The left sidebar contains navigation menus for 'User Management', 'Auction Management', and 'Bid Management'. The top header shows the system name, a map of India, and user information including 'Last login : 14-Dec-2018 05:09 PM' and '10-Apr-2019 17:25:25'.

After selecting the option, click on “Next” Button as per above screenshot. Further process to be followed as per subsequent screen.

STEPS FOR MAKING TENDER PAYMENTS IN ETENDERS SYSTEM VIA SBI BANK GATEWAY

(SBI AND NON SBI ACCOUNT HOLDERS)

Home Page.

Login as a bidder into etenders.gov.in to proceed for payment.

The screenshot shows the home page of the Government of India Central Public Procurement Portal (ePROCUREMENT). The page features a navigation menu on the left with options like 'Tenders by Location', 'Tenders by Organisation', and 'Tenders by Classification'. The main content area is divided into sections for 'Latest Tenders' and 'Latest Corrigendums'. The 'Latest Tenders' section displays a table with the following data:

Tender Title	Reference No	Closing Date	Bid Opening Date
TA/ANR/19/123,000 Tannancherla to Jannandipally Section of NH 265 in the state of Telangana (Under PDS Khannam)	NHA/13013/1947/CO/19- 20/EQ/Chinthalpally	28-May-2019 11:00 AM	29-May-2019 11:30 AM
S. PUR/1/18- 19/1044/SRS/ACRC-ASD	PUR/1/18-19/1044/SRS/ACRC- ASD	11-Jun-2019 03:00 PM	12-Jun-2019 03:00 PM

The 'Latest Corrigendums' section displays a table with the following data:

Corrigendum Title	Reference No	Closing Date	Bid Opening Date
1. Corrigendum-Extension of due date for submission of bid	NAL/PUR/ACD/548/18-V	30-May-2019 10:00 AM	31-May-2019 11:00 AM
2. CORRIGENDUM 3	42/RO- PATNA/NHA/2018-19	11-Jun-2019 04:00 PM	13-Jun-2019 12:00 PM
3. Corrigendum 1	AA2CLAS/PHCI/PRE/E-	05-Jun-2019 03:00 PM	10-Jun-2019 03:30 PM

On the right side, there is a 'User Login' section with fields for 'Login ID' (containing 'bidder@nic.in') and 'Captcha' (containing 'CUTDF'). Below the login fields are links for 'Online Bidder Enrollment', 'Generate / Forget Password?', and 'Find My Head Office'. There is also a 'Tender Search' section with a search box and a 'Go' button.

Step 1) Click “Pay Online” when you reach below page while Online Bid Submission.

The screenshot displays the 'BID MANAGEMENT' section of a web application. On the left is a navigation menu with categories like 'User Management', 'Auction Management', and 'Bid Management'. The main content area shows details for a specific tender: '2018_LSGD_204397_1'. It includes the organization chain (NIC|NIC Contracts), tender reference number (PW3/23401/18), tender ID (2018_LSGD_204397_1), and the tender title (PW3/23401/18 PRO.NO.604/18-19 DVN.30 VARIOUS LANES INTERLOCKING AND CONCRETING). Below this, there is a 'Bid Process List' table with one entry: 'Profile'. A 'Bid Payment Details' table follows, listing 'Tender Fee' (2500.00 INR) and 'Emd Fee' (37500.00 INR). At the bottom of the main content area, there are two buttons: 'Pay Online' and 'Encrypt&Upload'. The footer of the interface shows the version '1.09.06 04-Feb-2018' and copyright information '(c) 2008 Tenders NIC, All rights reserved.'.

BID MANAGEMENT

My Tenders → 2018_LSGD_204397_1 → Transaction Message

Organization Chain : NIC|NIC Contracts
Tender Reference Number : PW3/23401/18
Tender ID : 2018_LSGD_204397_1
Tender Title : PW3/23401/18 PRO.NO.604/18-19 DVN.30 VARIOUS LANES INTERLOCKING AND CONCRETING

Bid Process List

S.No	Bid Process	Action
1	Profile	

Bid Payment Details

S.No	Fee Type	Actual Fee	Exempted Fee	Fee To Be Paid	Paid Fee
1	Tender Fee	2500.00 (INR)	0.00	2500.00 (INR)	0.00
2	Emd Fee	37500.00 (INR)	0.00	37500.00 (INR)	0.00

Pay Online Encrypt&Upload

Version:1.09.06 04-Feb-2018 (c) 2008 Tenders NIC, All rights reserved.

Step 2) Click “**Confirm to Pay**” to proceed with the payment gateway, as below.

Note: Please ensure that you have availed Tender Fee / EMD Exemption, if eligible. Further, there would not be any provision to change back, under any circumstances.

The screenshot displays the 'BID MANAGEMENT' section of a web application. The left sidebar contains a navigation menu with categories: User Management (My Accounts, My Documents), Auction Management (My Auctions, Live Auctions, View Auction History), and Bid Management (Search Active Tenders, My Tenders, Clarification, My Active Bids, Bid Opening (Live), Short fall Documents, Online Payment Status, My Bids History, Short Fall Documents History, Archived Clarification, Tender Status, My Withdrawn Bids). The main content area is titled 'Offline/OnLine Payment Confirmation' and shows the following details:

Organization Chain : NIC|NIC Contracts
Tender Reference Number : PW3/23401/18
Tender ID : 2018_LSGD_204397_1
Tender Title : PW3/23401/18 PRO.NO.604/18-19 DVN.30 VARIOUS LANES INTERLOCKING AND CONCRETING

Bid Payment Details

S.No	Fee Type	Actual Fee	Exempted Fee	Fee To Be Paid
1	Tender Fee	2128.00 (INR)	0.00	2128.00 (INR)
2	Emd Fee	23100.00 (INR)	0.00	23100.00 (INR)

Portal Alert :

- Beyond this stage, you will not be able to edit Fee or Exemption details.
- Please confirm that the exemption and amount to be paid are correct.

I hereby confirm that the above payment details are correct.

Buttons: Back, Confirm to Pay

Version:1.09.06 04-Feb-2018 (c) 2008 Tenders NIC, All rights reserved.

Step3) Verify that the Tender fee and EMD shown are correct, as per tender document. Then, select the payment option **SBI MOPS** and Submit, as below.

Note: In case of any mismatch in tender payments, with reference to tender documents, please contact TIA for clarifications.

BID MANAGEMENT

OnLine Payment Gateway

Organization Chain : NIC||NIC Contracts
Tender Reference Number : PW3/23401/18
Tender ID : 2018_LSGD_204397_1
Tender Title : PW3/23401/18 PRO.NO.604/18-19 DVN.30 VARIOUS LANES INTERLOCKING AND CONCRETING

Fee Type	Actual Fee	Exempted Fee	Fee To be Paid
Tender Fee	2,500	0	2,500
Emd Fee	37,500	0	37,500
Total Fee			40,000

Choose Payment Option

SBI MOPS

Version:1.09.06 04-Feb-2018 (c) 2008 Tenders NIC, All rights reserved.

Step 4) Check and Follow the **Terms and Conditions**, and then **Submit**, as below.

BID MANAGEMENT

OnLine Payment Gateway

Payment Verification

Organization Chain : NIC||NIC Contracts
Tender Reference Number : PW3/23401/18
Tender ID : 2018_LSGD_204397_1
Tender Title : PW3/23401/18 PRO.NO.604/18-19 DVN.30 VARIOUS LANES INTERLOCKING AND CONCRETING

Pay Model : SBI MOPS

✓ Terms And Conditions.

- You are being redirected to the SBI MOPS site.
- You have to complete the transaction with in the session time which is approximately 15 minutes.
- Money once transferred towards tender fee shall not be refunded at any point of time. This is applicable even in case you have not completed the tender process.
- Once payment is successfully completed, you will be automatically redirected back to e-Procurement site.
- It is the responsibility of the Individual to ensure that the payment is successfully completed and eProcurement system is not responsible for any malfunctions in the Bank payment gateway.
- please take print screen for bank acknowledgement page.

[Back](#) [Submit](#)

Version:1.09.06 04-Feb-2018 (c) 2008 Tenders NIC, All rights reserved.

Step 5) Bidders may choose the type of transaction and proceed for payment.

SBI ONLINE

STATE BANK MULTI OPTION PAYMENT SYSTEM

Please Select Appropriate Card Type To Avoid Failures (C-Credit Card Options/D For Debit Card)

Net Banking

SBI
Bank Charges: 11.8
[Click Here](#)

Other Banks
Bank Charges: 132.5
[Click Here](#)

Card Payments

Other Payments Modes

NEFT
NEFT/RTGS
Bank Charges: 133.0
[Click Here](#)

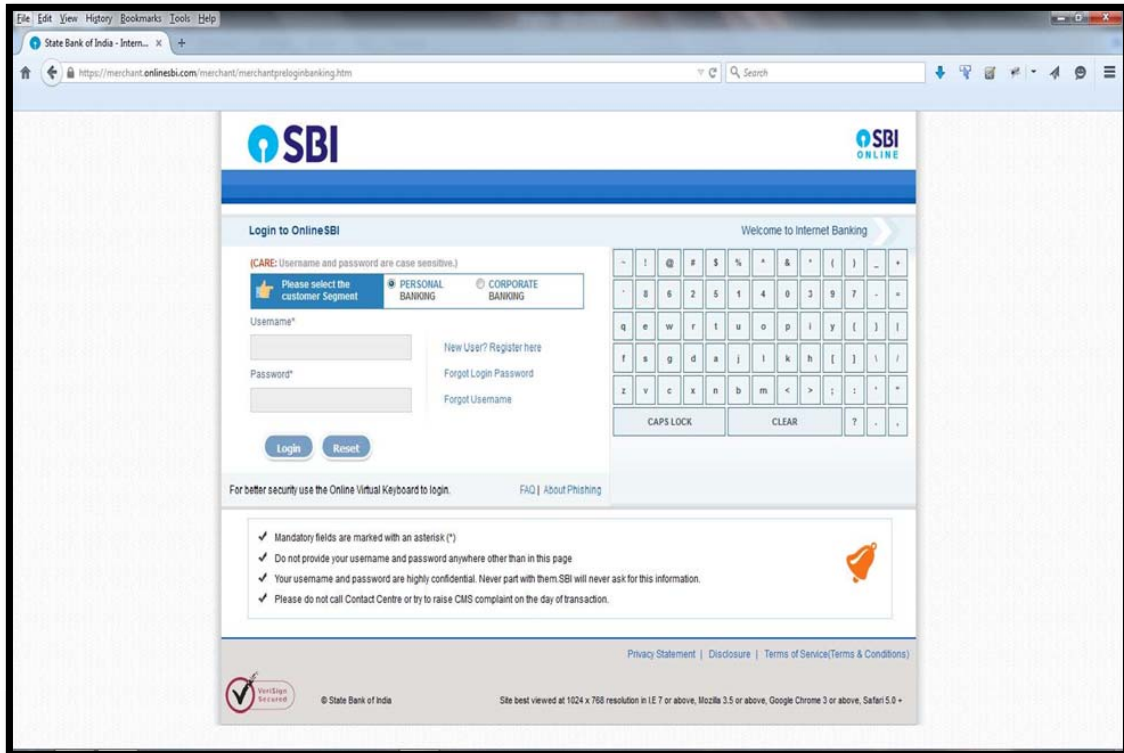
[Cancel](#)

© State Bank of India Site best viewed in IE, 10 +, Mozilla 30 +, Google Chrome 30 +

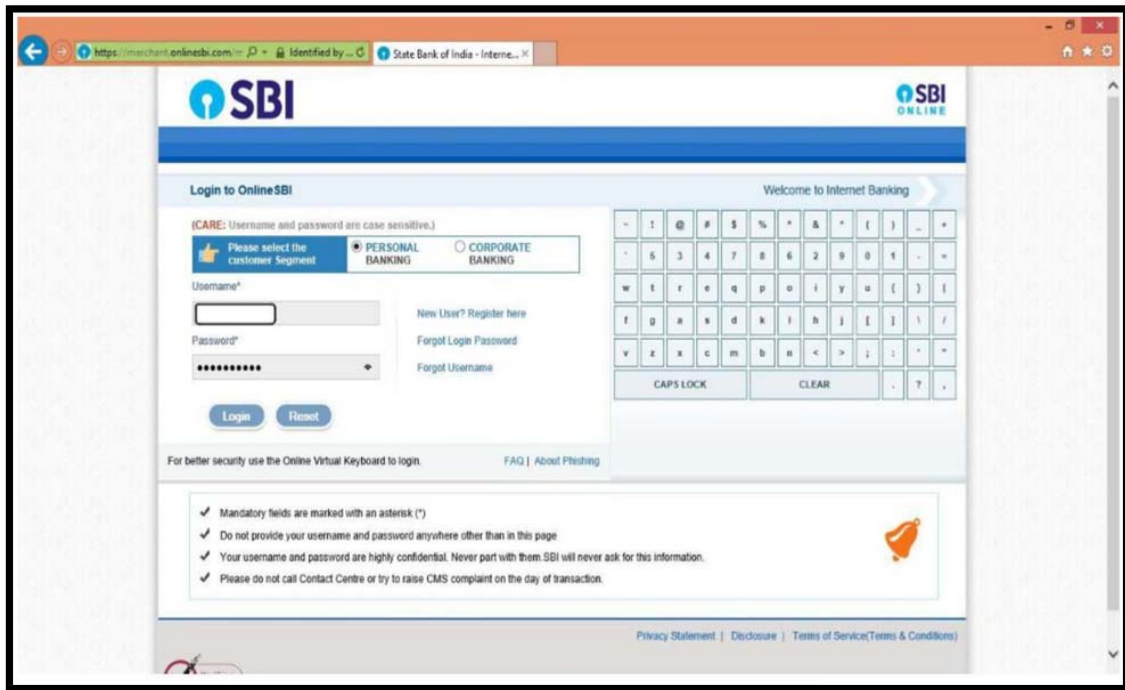
Step 6) Once the Payment type is selected it navigates to the respective landing page.

a) SBI

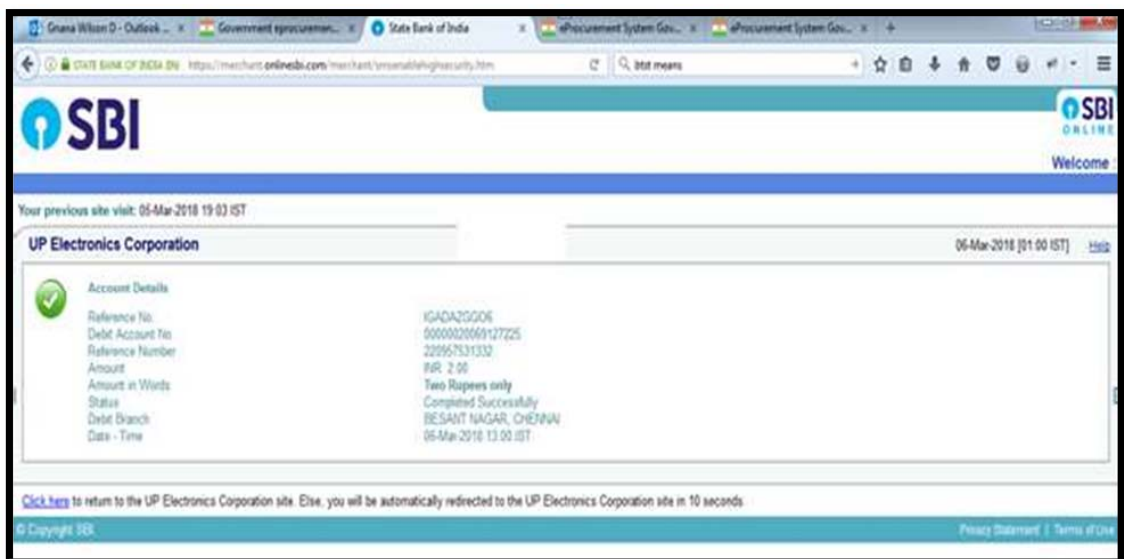
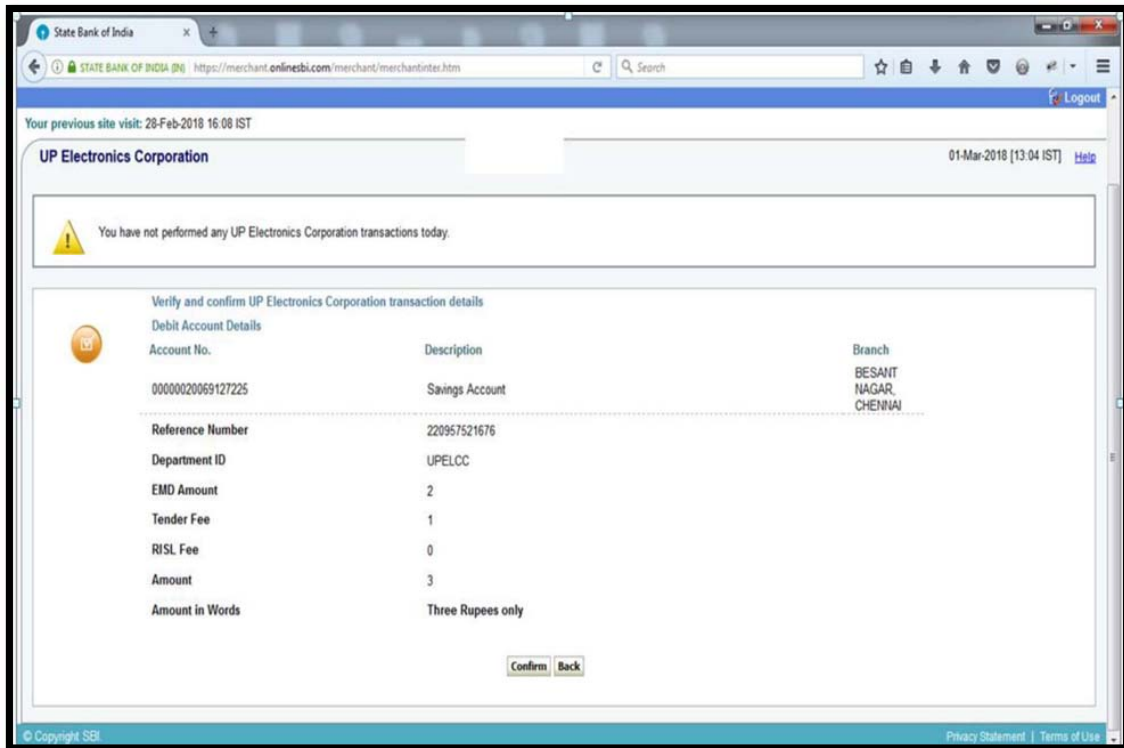
i. Bidders with SBI account may click **SBI** option to proceed to its Net Banking Page



ii. Bidders may enter SBI Net banking user ID and Password and Click on **Login** to proceed.



iii. Please ensure that your account has sufficient balance, before proceeding further. After checking the same, Click **Confirm** button as below, to transfer payment. After account debit, MOPS gateway will automatically re-direct to the eProcurement System, with the Success transaction.



iv. As in below, you will receive bank response immediately by verifying the payment status, whether **Success** or not. In case, payment was debited from account and further, **Payment Failure** is shown, immediately contact the eProcurement helpdesk, for resolution, before tender closing time.

Click **Next** to go to Bid Preparation details, as in screenshot.

The screenshot displays the 'BID MANAGEMENT' section of a web application. On the left is a navigation menu with categories: User Management (My Accounts, My Documents), Auction Management (My Auctions, Live Auctions, View Auction History), and Bid Management (Search Active Tenders, My Tenders, Clarification, My Active Bids, Short fall Documents, Online Payment Status, My Bids History, Short Fall Documents History, Archived Clarification, Tender Status, My Withdrawn Bids). The main content area is titled 'BID MANAGEMENT' and shows a notification: 'Your Online transaction has been completed successfully.' Below this, transaction details are listed: Organization Chain: NIC|NIC Contracts, Tender Reference Number: PW3/23401/18, Tender ID: 2018_LSGD_204397_1, and Tender Title: PW3/23401/18 PRO.NO.604/18-19 DIVN.30 VARIOUS LANES INTERLOCKING AND CONCRETING. A section titled 'Bank Response On Payment Details' provides further information: eProcurement Ref. Number: 220957531332, PRN Number: 220957531332, Bank / UTR Number: IGADAZGG06, Bank Name: SBI Bank, Status: Success, Status Description: Completed successfully, Tender Fee in ₹: 1, EMD Fee in ₹: 1, and Total Fee in ₹: 2. A 'Next' button is located at the bottom right of the details section.

v. Please ensure that the **Pay Online** option is not shown after successful payment, as below, for confirmation. From here, you may proceed with **Encrypt and Upload** to upload tender documents, and further submission process.

The screenshot displays the 'BID MANAGEMENT' section of a web application. On the left is a navigation menu with categories: User Management, Auction Management, and Bid Management. The main content area shows details for a specific tender:

- Organization Chain :** NIC||NIC Contracts
- Tender Reference Number :** PW3/23401/18
- Tender ID :** 2018_LSGD_204397_1
- Tender Title :** PW3/23401/18 PRO.NO.604/18-19 DVN.30 VARIOUS LANES INTERLOCKING AND CONCRETING

Below the details are two tables:

Bid Process List

S.No	Bid Process	Action
1	Profile	

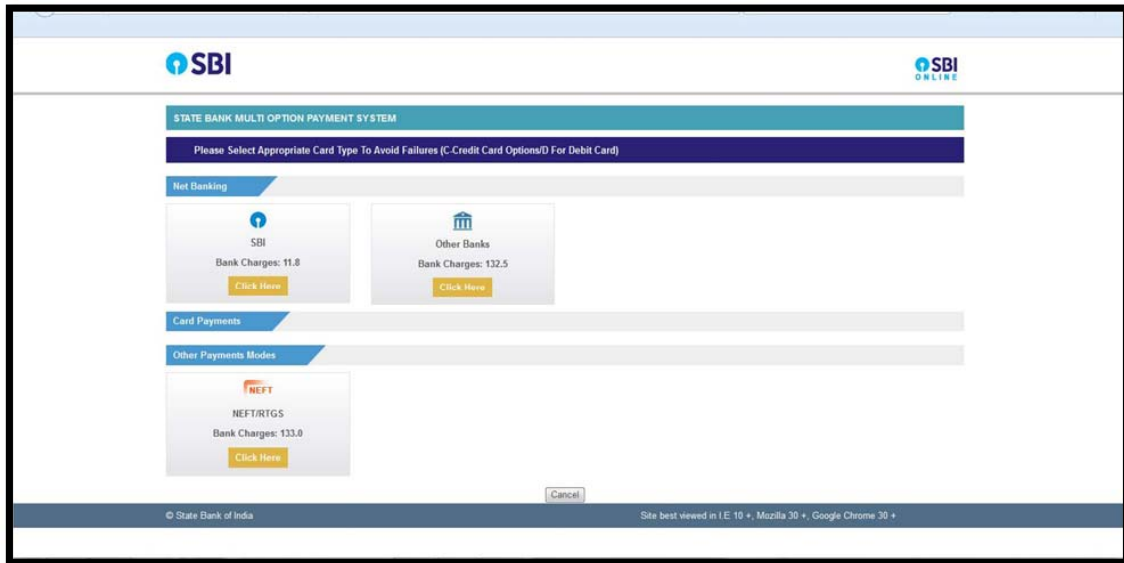
Bid Payment Details

S.No	Fee Type	Actual Fee	Exempted Fee	Fee To Be Paid	Paid Fee
1	Tender Fee	1.00 (INR)	0.00	0.00	1.00 (INR)
2	Emd Fee	2.00 (INR)	0.00	0.00	2.00 (INR)

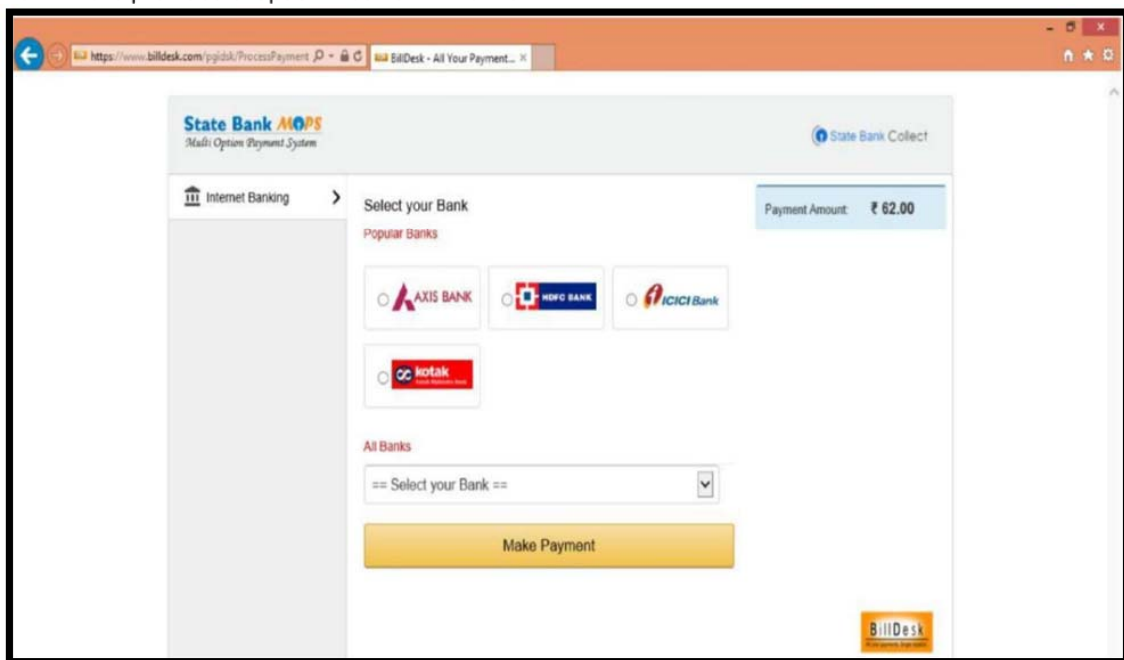
At the bottom right of the main content area, there is an orange button labeled 'Encrypt&Upload'.

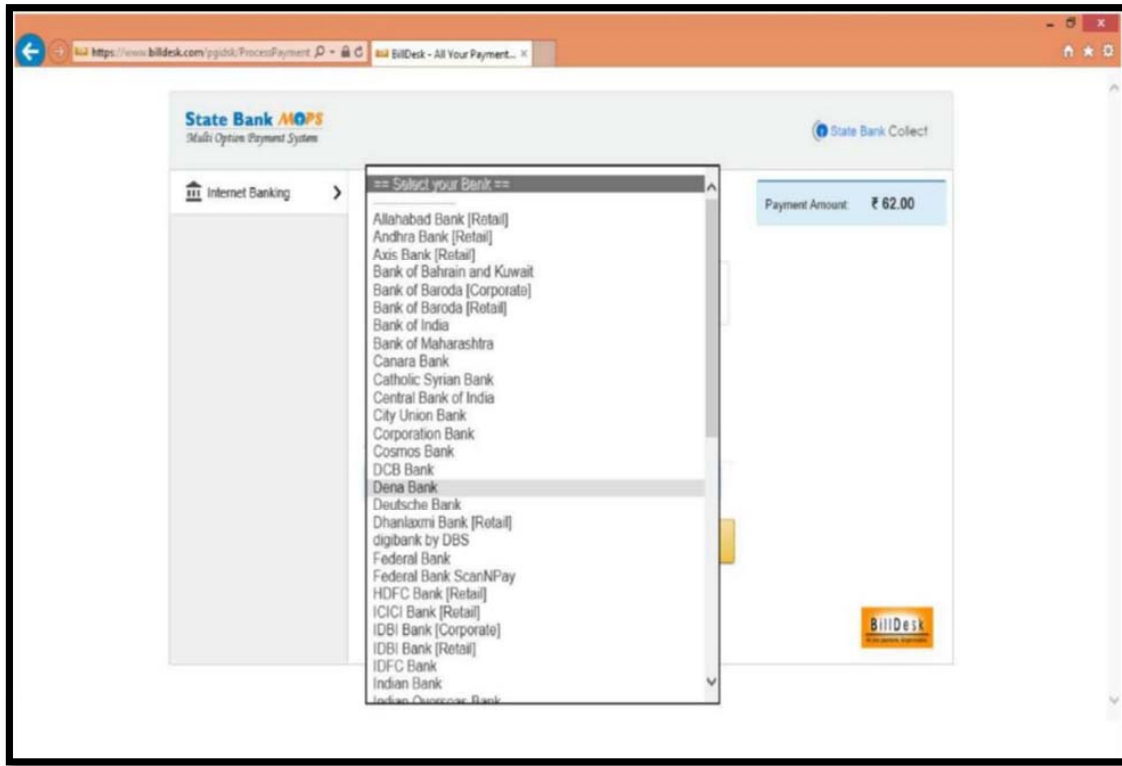
b) OTHER BANKS :

- i. Bidders with other bank account may click **Other Banks** option to proceed to SBI Net Banking Page

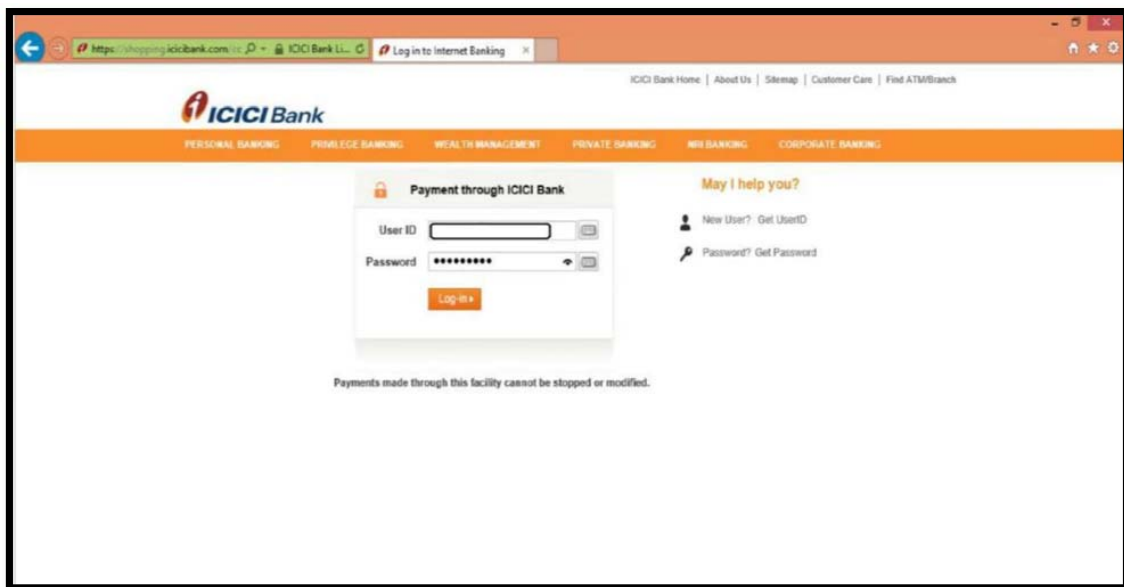
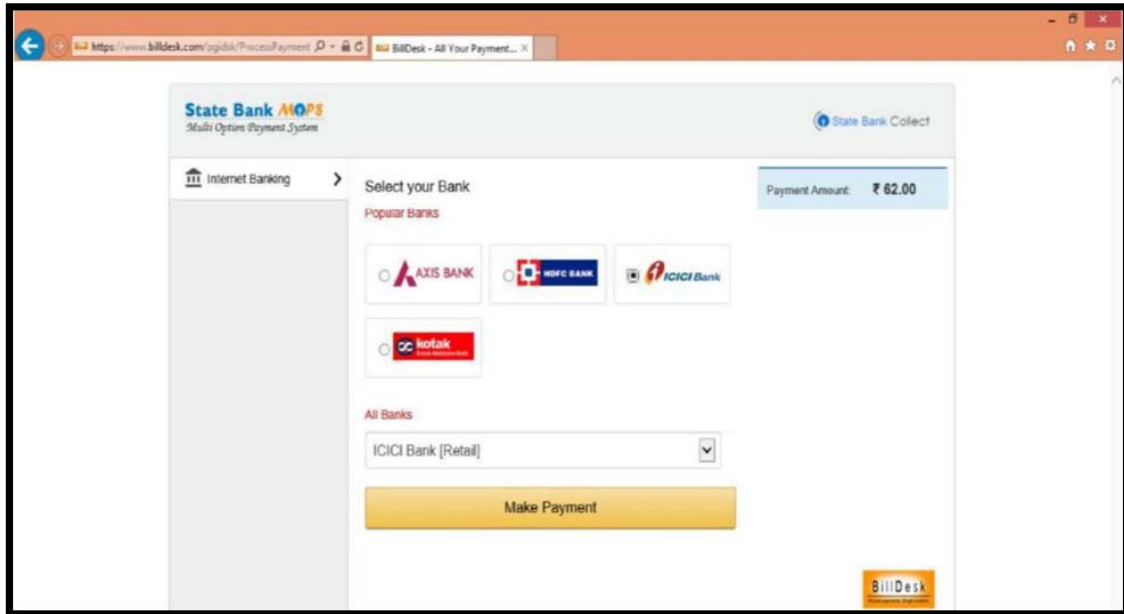


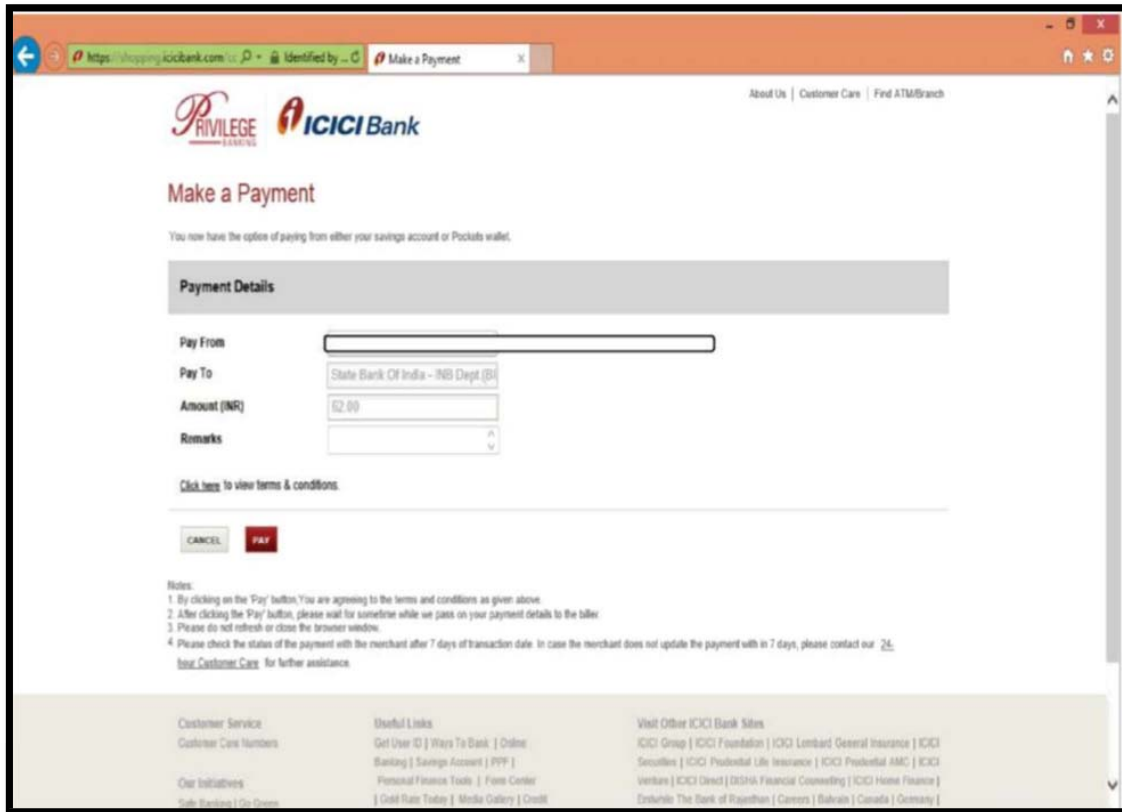
You may select the appropriate Bank from selection page. As an example, we are proceeding with ICICI Bank in the provided dropdown box of **All Banks**.

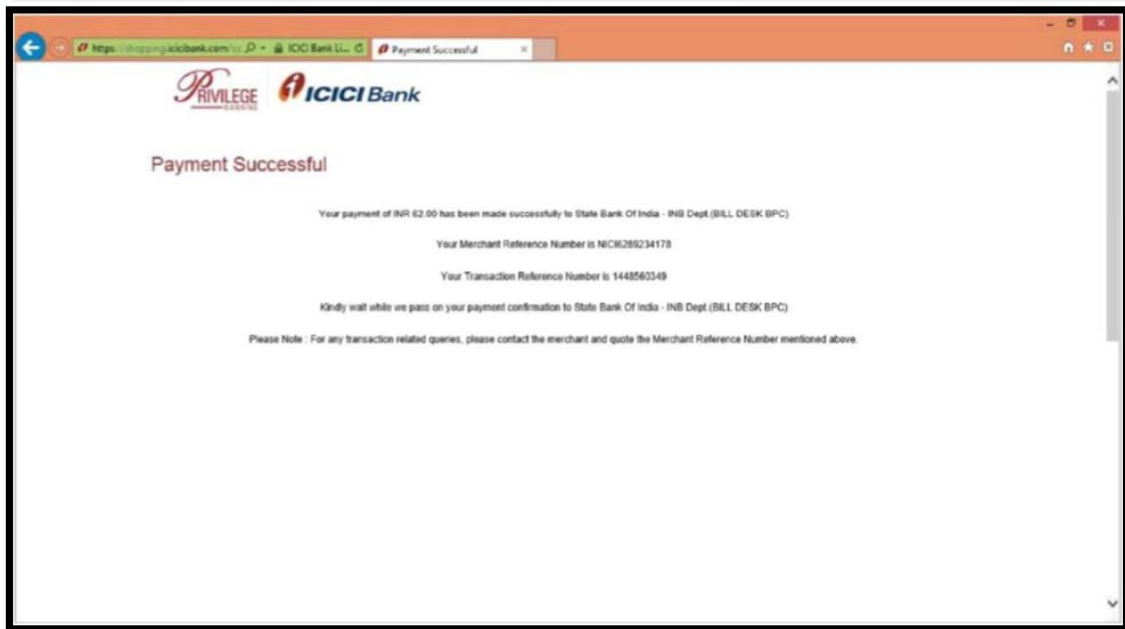
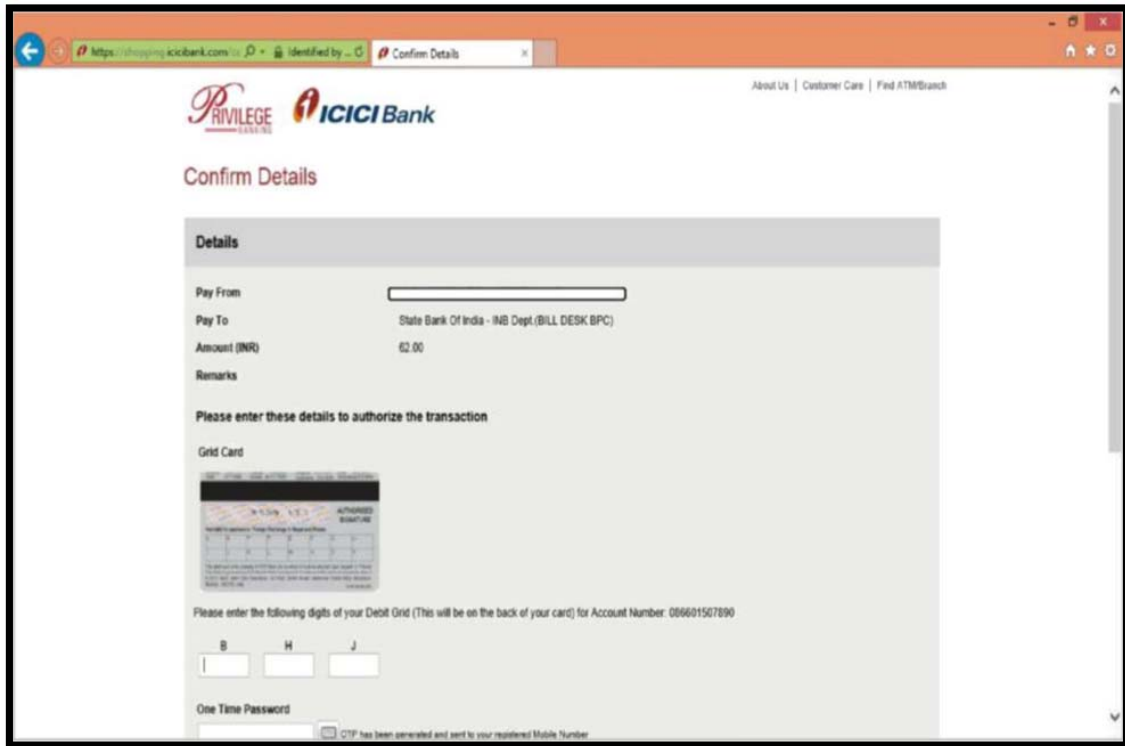




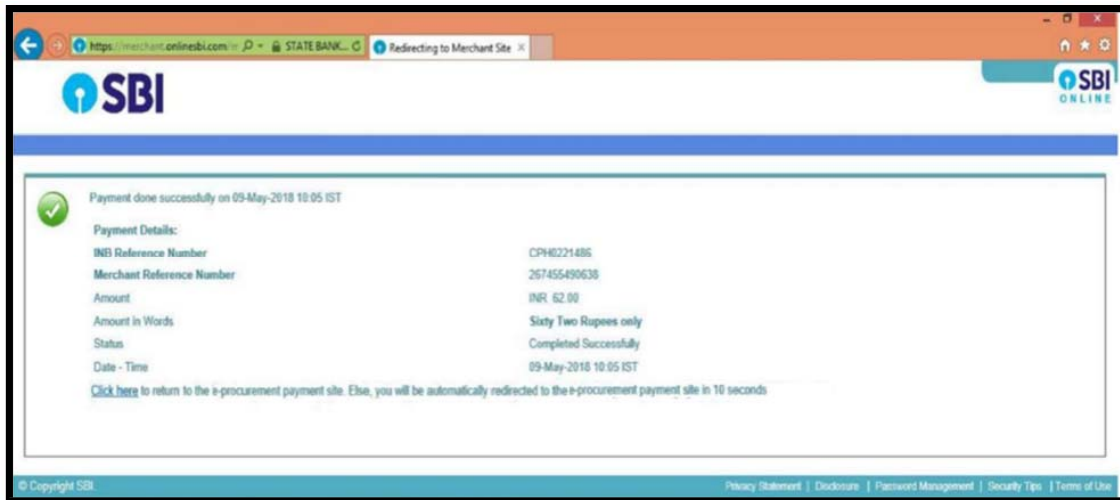
- ii. After selecting ICICI Retail Banking, Click **Make Payment** Button to proceed to its internet banking page. Further steps may depend on the Bank Procedure.





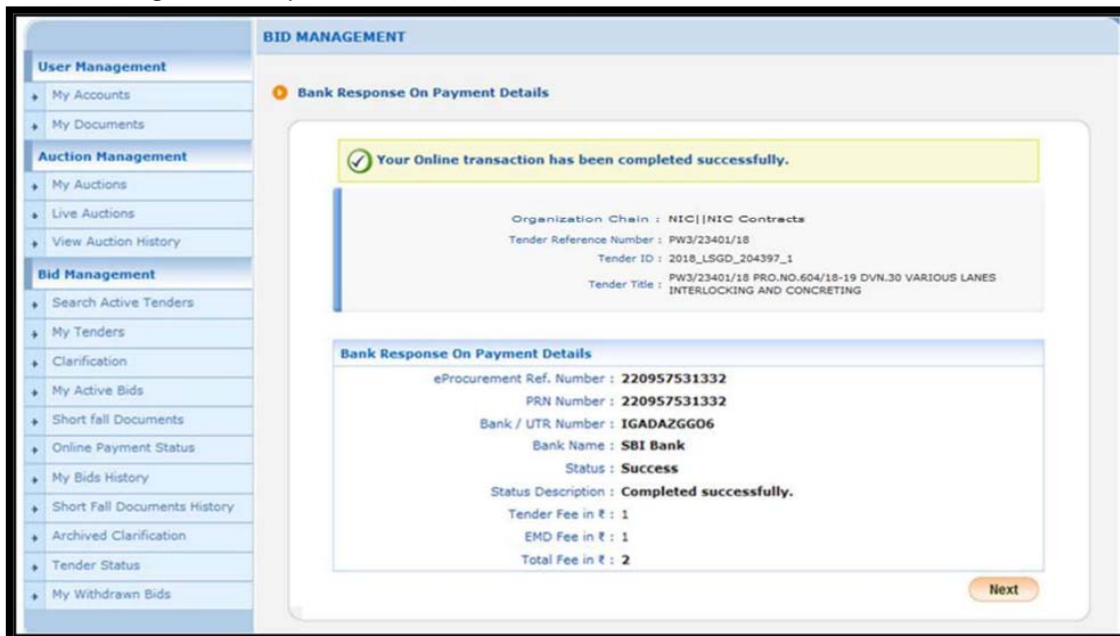


- iii. After, successful payment, system will direct you to payment confirmation page.



- iv. As in below, you will receive bank response immediately by verifying the payment status, whether Success or not. In case, payment was debited from account and further, **Payment Failure** is shown, immediately contact the eProcurement helpdesk, for resolution, before tender closing time.

Click **Next** to go to Bid Preparation details, as in screenshot.



v. Please ensure that the **Pay Online** option is not shown after successful payment, as below, for confirmation. From here, you may proceed with **Encrypt and Upload** to upload tender documents, and further submission process.

The screenshot displays the 'BID MANAGEMENT' section of a web application. The left sidebar contains navigation menus for 'User Management', 'Auction Management', and 'Bid Management'. The main content area shows 'My Tenders' for a specific tender with the following details:

- Organization Chain : NIC|NIC Contracts
- Tender Reference Number : PW3/23401/18
- Tender ID : 2018_LSGD_204397_1
- Tender Title : PW3/23401/18 PRO.NO.604/18-19 DVN.30 VARIOUS LANES INTERLOCKING AND CONCRETING

Below the details, there are two tables:

Bid Process List

S.No	Bid Process	Action
1	Profile	

Bid Payment Details

S.No	Fee Type	Actual Fee	Exempted Fee	Fee To Be Paid	Paid Fee
1	Tender Fee	1.00 (INR)	0.00	0.00	1.00 (INR)
2	Emd Fee	2.00 (INR)	0.00	0.00	2.00 (INR)

An 'Encrypt&Upload' button is located at the bottom right of the payment details section.

C) NEFT/RTGS

(i) Bidders may choose the type of transaction and proceed for payment.

The screenshot shows the SBI Online payment gateway interface. It features the SBI logo and 'SBI ONLINE' branding. The main heading is 'STATE BANK MULTI OPTION PAYMENT SYSTEM'. Below this, there is a instruction: 'Please Select Appropriate Card Type To Avoid Failures (C-Credit Card Options/D For Debit Card)'. The interface is divided into sections for 'Net Banking' and 'Card Payments'. Under 'Net Banking', there are two options: 'SBI' with 'Bank Charges: 0.00' and 'Other Banks' with 'Bank Charges: 59.0'. Under 'Card Payments', there is an option for 'Other Payments Modes' which includes 'NEFT/RTGS' with 'Bank Charges: 0.00'. A 'Cancel' button is visible at the bottom of the page.

(ii) Please click the check Box to proceed to the payment and click on the Confirm Button.



SBI

Disclaimer Clause

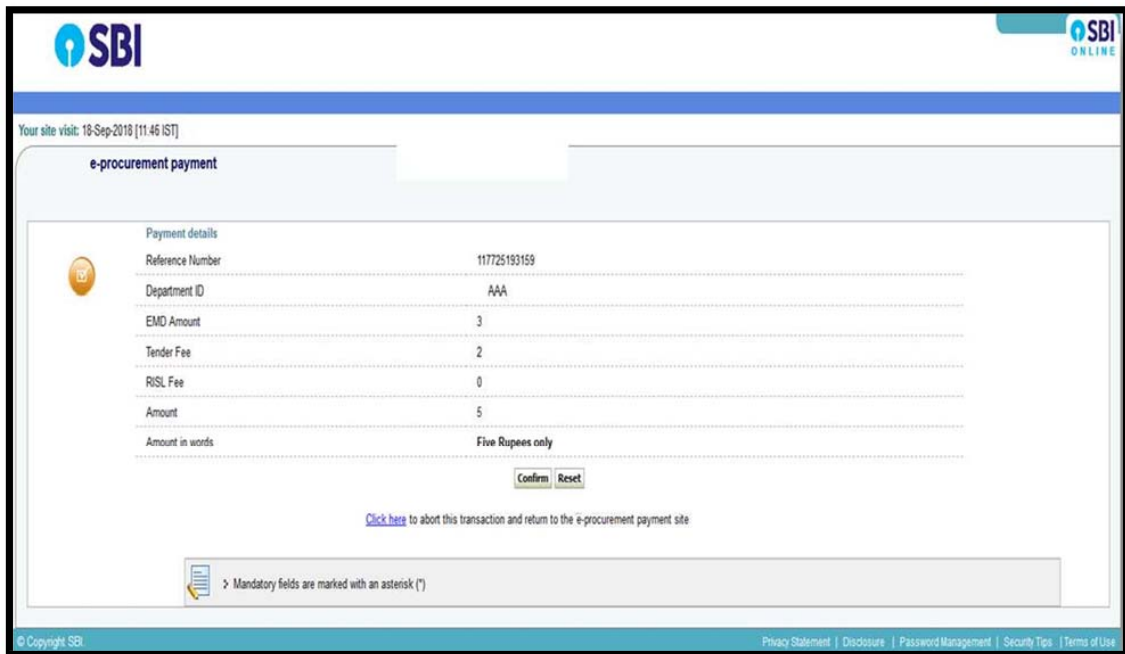
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I have read and accepted the terms and conditions stated above.
(Click Check Box to proceed for payment)

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- (iii) Please ensure that your account has sufficient balance, before proceeding further. After checking the same, Click **Confirm** button as below, to transfer payment.



SBI **SBI ONLINE**

Your site visit: 19-Sep-2018 [11:46 IST]

e-procurement payment

Payment details

Reference Number	117725193159
Department ID	AAA
EMD Amount	3
Tender Fee	2
RISL Fee	0
Amount	5
Amount in words	Five Rupees only

[Click here](#) to abort this transaction and return to the e-procurement payment site

> Mandatory fields are marked with an asterisk (*)

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(iv) Click **Confirm** button as below, to transfer payment.

Your site visit: 18-Sep-2018 [11:46 IST]

e-procurement payment

Payment details	
Reference Number	117725193159
Department ID	AAA
EMD Amount	3
Tender Fee	2
RISL Fee	0
Amount	5
Amount in words	Five Rupees only

> Mandatory fields are marked with an asterisk (*)

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(v) The challan is generated after successful transaction.

Your site visit: 18-Sep-2018 [11:46 IST]

e-procurement payment NEFT/RISGS Form

Beneficiary Details	
Beneficiary Account Number (to be entered as it appears)	P556ACF0823167
Amount	Rs. 5
Amount In Words	Five Rupees only
Beneficiary Bank	State Bank of India
Beneficiary IFSC Code	SB000017076
Name & Address	e-procurement payment
Beneficiary Reference Number	117725193159

Note for Bidder:

- The remittance should be within the prescribed time and as per the terms and conditions specified in tender.
- Please ensure the correctness of details regarding while remittance through RTGS/NEFT. SBI and State would not be responsible for the transactions required due to incorrect details reported.
- For RTGS/NEFT transactions, Date and time at which payment is received in SBI would be relevant for the purpose of determining the issue as to whether payment was received in time or not. Therefore, bidder should make transactions well in advance so as to ensure that the payment reaches SBI before date and time for submission of tender.
- Bank for which payment is received after closing date time for submission of tender bid would be rejected and would not be considered for further processing. The payment would be returned back to the bank account from which the transaction was made.
- Bidder should verify that the payment status as per government portal. The transaction for which payment is received before bid tender closing date and time would be displayed as SUCCESSFUL in the portal otherwise bidder may contact their bank from which the transaction was made.
- Bidder should ensure that under documents fees and EMD are remitted as one single transaction and not separate.
- Bidder should ensure that no receipt is entered during RTGS/NEFT remittance at any bank counter or internet banking site in the same as appears in e-Procurement remittance form. Bidder should not enclose this account number.
- No additional information like bidder name, company name, etc. should be entered in the account no. column along with account no. for RTGS/NEFT remittance.
- Cash or Cheque deposit for remittance in SBI and other banks not allowed and the payment may be treated as invalid and the respective bid is liable to be rejected.
- Please always CTR no. from your remittance bank for your remittance reference.
- Please note that this is only a remittance information form and not an acknowledgement of remittance.

In case the above points are not followed, the payment may be treated as invalid and the respective bid is liable to be rejected.

Disclaimer:

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[Click here to print the Remittance Form](#)
[Click here to Download it.pdf](#)
[Click here to return to the Dashboard, e-procurement payment site.](#)

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(vi) The Downloaded challan of the e-procurement RTGS/NEFT Remittance Information

e-procurement payment RTGS/NEFT Remittance Information Form	
Beneficiary Details	
Beneficiary Details	
Beneficiary Account Number (to be entered as it appears)	PSEGACPJ8923167
Amount	Rs. 5
Amount In Words	Five Rupees only
Beneficiary Bank	State Bank of India
Beneficiary IFSC Code	SBIN0017676
Name and Address	e-procurement payment
Beneficiary Reference No	117725193159
Instructions for remitting Bank:	
<p>a. This form is valid for remittance through non-SBI branches.</p> <p>b. Beneficiary account no. is alpha-numeric and case sensitive. It should be entered as it appears above.</p> <p>c. Amount to be remitted should not be higher or lesser and should be the same as shown above.</p>	
Note for Bidders:	
<p>a. Bidder should ensure that account no. entered during RTGS/NEFT remittance at any bank counter or Internet banking site is the same as it appears in this remittance form. Bidder should not truncate or add any other detail to the above account number.</p> <p>b. No additional information like bidder name, company name, etc. should be entered in the account no. column along with account no. for RTGS/NEFT remittance.</p> <p>c. Account to Account transfers or Cash payments are not allowed and are invalid mode of payments. Hence, this remittance form is to be used only for RTGS or NEFT payment.</p> <p>d. Bidder should ensure that tender document fees and EMD are remitted as one single transaction and not separate. The remittance should be within the prescribed time and as per the terms and conditions specified in tender.</p> <p>e. Please ensure the correctness of details inputted while remittance through RTGS/NEFT. Please also ensure that your banker keys in the Account Number (which is case sensitive) as displayed in this form. SBI and Merchant</p> <p>f. For RTGS, the purpose of remittance should be relevant for the purpose of the tender. Therefore, bidders should make the remittance before date and time for submission of tender.</p> <p>g. Bids for which Payment is received after closing date/time for submission of tender/bid would be rejected.</p>	

GENERAL GUIDELINES FOR BIDDERS

1. Item rate e-tenders are invited through the e-tendering CPP portal by AGM (E-C)-NR, (Bid Manager) on behalf of Chairman, A.A.I. from the eligible contractors for the work of **“Construction of New Civil Enclave at Jammu Airport (Phase-I). SH: Construction of Apron and associated works for parking of 13 Nos. AB-321 type of Aircraft”** at an estimated cost of **Rs. 57.60 Crores (excluding GST)** with completion period of with completion period of 18 months including 2.0 months considered for rains.
2. The Tenders shall be in the prescribed Form are invited in two bid system:
 - i) Envelope-I: Tender processing fee, Insurance Surety Bond / BG against EMD (if EMD not paid online through CPP Portal), Technical Bid and Pre-qualification
 - ii) Envelope-II: Financial Bid.
3. Not more than one Tender shall be submitted by a contractor or by a firm. No two or more concerns in which an individual is interested, as Proprietor and/or partner shall tender for the execution of the same works. If they do so, all such Tenders shall be liable to be rejected. In case such involvement is detected at a later date during the currency of the project, the agreement shall be terminated without notice and appropriate legal action shall be taken including debarring the agency from bidding in AAI.
4. No single firm shall be permitted to submit two separate tenders either as individual or as associate / Consortium or under two different associates/ Consortium
5. The Accepting Authority as mentioned in **Schedule “F”/2(viii)**, shall be the Accepting Officer hereinafter, referred to as such for the purpose of this contract.
6. Tender documents can be downloaded from the CPP e-tendering portal. Tender processing fee of **Rs. 11,800.00/- (i/c GST)** – Non Refundable will be required to be paid online through Payment Gateway on CPP Portal. The last date of submission of bid is as mentioned in Critical Data Sheet of Notice Inviting Tender.
 - i) Intending Bidders are advised to inspect and examine the site and its surroundings and satisfy themselves before submitting their bids as to the nature of the ground and sub-soil (so far as is practicable), the form and nature of the site, the means of access to the site, the accommodation they may require and in general shall themselves obtain all necessary information as to risks, contingencies and other circumstances which may influence or affect their bid. The bidders shall be responsible for arranging and maintaining at his own cost all materials, tools & plants, water, electricity access, facilities for workers and all other services required for executing the work unless otherwise specifically provided for in the contract documents. Submission of a bid by a bidder implies that he has read this notice and all other contract documents and has made himself aware of the scope and specifications of the work to be done and local conditions and other factors having a bearing on the execution of the work. The bidders shall be deemed to have full knowledge of the site whether he inspects it or not and no extra charge consequent on any misunderstanding or otherwise shall be allowed
 - ii) Layout/alignment of the Project is being provided only as a preliminary reference document by way of assistance to the Bidders who are expected to carry out their own surveys, investigations and other detailed examination of the Project before submitting their Bids. Nothing contained in this ‘TENDER DOCUMENT’ shall be binding on the Authority nor confer any right on the Bidders, and the Authority shall have no liability

whatsoever in relation to or arising out of any or all contents of this 'TENDER DOCUMENT'.

7. Submission of a e-tender by a Tenderer implies that he has read this notice and all other contract documents and has made himself aware of the scope and specifications of the works to be done and of conditions and rates at which stores, tools and plant, etc. will be issued to him by Airports Authority of India, local conditions, local material rates and other factors bearing on the execution of the works. A Tenderer shall be deemed to have full knowledge of the site whether he inspects it or not and no extra charges consequent on any misunderstanding or otherwise shall be allowed.

1. All rates (exclusive of GST and ESI & EPF) shall be quoted in the **respective Section** in CPP e-tender Portal (**Financial Bid i.e. Envelope-II**).

2. As this tender is an Item Rate Tender, rates for all items quoted shall only be considered. Any Tender containing percentage below/above the total estimated cost is liable to be rejected. Tenderers who propose any alteration in the works specified in the said form of invitation to tender, or in the time allowed for carrying out the work, or which contain any other conditions of any sort including conditional rebates will be summarily rejected.

3. Bidder must ensure to quote rate of each item. The column meant for quoting rate in figures appears in blue colour and the moment rate is entered, it turns sky blue. In addition to this, while selecting any of the cells a warning appears that if any cell is left blank the same shall be treated as "0". Therefore, if any cell is left blank and no rate is quoted by the bidder, rate of such item shall be treated as "0" (ZERO). However, if a tenderer quotes nil rates against each item in item rate tender, the tender shall be treated as invalid and will not be considered as lowest tenderer.

4. Tenders shall be received through CPP e-tendering portal as per schedule mentioned in CRITICAL DATA SHEET of WNIT and Envelope-I shall be opened as per the schedule in CRITICAL DATA SHEET of WNIT for the bidders who have submitted their bids.

5. The tenderer should study the complete tender document. In order to facilitate AAI to prepare responses, the interested tenderers are requested to submit their queries (if any), in CPP e-tender portal only, as per time schedule specified in NIT. The tenderers queries shall be replied through e-portal only.

6. **Tender Fees / Earnest Money Deposit (EMD)**

14.1 Tender processing fee of **Rs. 11,800.00/-** (i/c GST) Non-refundable will be required to be paid online through Payment Gateway on CPP Portal only.

EMD of the value of **Rs. 82.60 Lakhs** shall be accepted Online/offline only, offline in the form of Insurance Surety Bond / Bank Guarantee from a Nationalized or any scheduled bank but not from Co-Operative or Gramin/ Rural bank (scheduled or Non-scheduled banks).

AAI Bank & Account details for preparation of Bank Guarantee are as follows:

CORPORATE NAME	:	AIRPORTS AUTHORITY OF INDIA
BANK NAME	:	ICICI BANK
IFSC CODE	:	ICIC0000007
BG ADVISING MESSAGE	:	IFN 760COV (BG ISSUE) IFN 767COV (BG AMENDMENT).
UNIQUE IDENTIFIER CODE (7037)	:	AAICORHQ

Further, while submitting the documents to BG issuing Bank, the Vender/ Customer/Concessionaire/Bidder shall also submit letter to the issuing bank as per the format mentioned in Annexure-1B and letter of undertaking from the Depositor to Bank as per Annexure-1C and upload copy of acknowledgement to bid manager.

Bidder to attach a copy of the SFMS BG confirmation message sent by the BG issuing Bank to ICICI Bank along with original BG document.

7. **Refund of EMD**

EMD amount of the rejected/unsuccessful bidders will be refunded to their source account after submission of Technical / Financial evaluation report on CPP portal by Bid Manager. EMD submitted in the form of Insurance Surety Bond / BG shall be returned by post.

Earnest Money deposited by successful tenderer can be refunded on submission of performance bank guarantee in any format acceptable to AAI.

8. **Power of attorney/authorization for signing tender**

- a) Only the Power of Attorney/Authorization holder of the tenderer on whose name the tender has been uploaded shall sign the Tender documents.
- b) The name and designation of the person or persons of the company who is authorized to sign shall be clearly indicated in the authority letter.
- c) In the event of the tender submitted by a partnership firm, it must be signed separately by each partner thereof, or in the event of the absence of any partner, it must be signed on his behalf by a person holding a Power-of-Attorney authorizing him to do so by the partners. A certified copy of the Power-of-Attorney issued by the company/partnership firm shall be uploaded in Envelope-I and it must disclose that the firm is duly registered under the Indian Partnership Act, 1952.

9. **Notification** of Award of contract will be made in writing to the successful bidder by the Accepting Authority or his representative. The contract will normally be awarded to the qualified and responsive Bidder offering lowest evaluated bid in conformity with the requirements of the specifications and contract documents and the Accepting Authority shall be the sole judge in this regard. The Accepting Authority does not bind himself to accept the lowest or, any tender or to give any reason for his decision. A **responsive bidder** is one who submits priced Tender and accepts all terms and conditions of the specifications and contract documents. A Tenderer shall submit a responsive bid, failing which his Tender will be liable to be rejected.

10. On acceptance of Tender, Earnest Money (EMD) of successful bidder will be treated as part of the security deposit. Airports Authority of India will return the earnest money where applicable to every unsuccessful bidder except as provided in the Tender document

11. The Accepting Authority does not bind itself to accept lowest tender or any tender and reserves to himself the right of accepting the whole or any part of the tender and tenderer shall be bound to perform the same at his quoted rates. No claim whatsoever will be entertained on this account

12. The Tenderer shall not be permitted to tender for works in Airports Authority of India Engineering Department, responsible for award and execution of contracts, in which his near relative is posted as Manager (Finance & Accounts) or Sr. Officer or as an engineer in

any capacity. He shall also intimate the names of persons who are working with him in any capacity or are subsequently employed by him and who are near relatives to any officer in Airports Authority of India. Any breach of this condition by the contractor would render him liable to be debarred from Tendering for next 2 years.
The contractors shall give a list of AAI employees related to him.

11. No Engineer of Gazetted rank or other Gazetted Officer employed in Engineering or Administrative duties in an Engineering Department of Airports Authority of India/Govt. of India is allowed to work as a contractor for a period of two years of his retirement from Airports Authority of India/ Government service, without the prior permission of Airports of India/Govt. of India. The contract is liable to be cancelled if either the contractor or any of his employees is found at any time to be such a person who had not obtained the permission of Airports Authority of India/Govt. of India as aforesaid before submission of the Tender or engagement in the contractor's service.
12. The Tender for the work shall remain open for acceptance for a period of Ninety days **(90 days)** from the date of opening of Financial Bid (Envelope-II). If any Tenderer withdraws his tender before the said period or makes any modifications in the terms and conditions of the Tender which are not acceptable to the Department, then Airports Authority of India shall without prejudice to any other right or remedy, be at liberty to forfeit the full said earnest money absolutely and to debar/ legal action against agency.
13. On acceptance of the Tender, the name of the accredited representative(s) of the contractor who would be responsible for taking instructions from the Engineer-in-Charge shall be communicated to the Engineer-in-Charge within 10 days of acceptance of tender.
14. The site for the work shall be made available in phases/ parts. Agencies are advised to visit site in detail, before submission of the bid.
15. A tenderer shall submit the tender which satisfies each and every condition laid down in this notice failing which the Tender will be liable to be rejected. Also, if the credential submitted by the firm found to be incorrect/false or have some discrepancy which disqualifies the firm then the AAI shall take the following action:
 - a) Forfeit the entire amount of EMD submitted by the tenderer.
 - b) The agency shall not be considered for evaluation and liable for debarment from tendering in AAI for a period of up to two (02) years in any name / style, apart from any other appropriate contractual / legal action, including termination of the contract shall be taken if discovered at a later stage.
16. Once the bidder has uploaded the digitally signed files of tender related documents along with Unconditional Acceptance of AAI's Tender Conditions, he is not permitted to upload any additional file or put any remark(s) / conditions(s). In case above conditions are found violated, the tender shall be rejected and AAI shall, without prejudice to any other remedy, be at liberty to forfeit the 10% of said earnest money.

17. **Taxes**

a) Taxes:

- a. All tendered rates should be inclusive of all taxes but exclusive of GST, ESI **and EPF**. GST, ESI and EPF shall be paid to bidder on submission of valid documentary proof thereof. However, GST, as applicable, shall be paid to the contractor, for any taxable supply/services/construction rendered by the agency to AAI, against a valid GST invoice as per terms and conditions of the contract.
- b. In case of change in rate of tax or any provision relating to levy of tax after last date of submission of bid resulting in increase in burden of tax on the contractor, the contractor shall be entitled to receive any compensation for such increase in quantum of tax payable by the contractor. Similarly, recovery shall be made from the contractor on account of decrease of rate of tax or any provision relating to levy of tax.
- c. All tendered rates should be inclusive of all taxes, duties, CESS, fee, royalty charges etc. levied under any statute applicable on last stipulated date of receipt of tender including extension if any, but exclusive of GST, ESI and EPF. However, GST, as applicable, shall be paid to the contractor, for any taxable supply/services/construction rendered by the agency to AAI, against a valid GST invoice as per terms and conditions of the contract. ESI and EPF shall be paid to bidder on submission of valid documentary proof thereof
- d. An undertaking should be submitted for registration under GST and compliance of GST provisions. In case of non-compliance of GST provisions and blockage of any input credit the bidder shall be responsible to indemnify AAI.
- e. In case supplies/services/works involve imports; the same should be identified separately. Basic Custom Duty & IGST will be paid directly by AAI by utilizing EPCG license/ Duty Credit Scrip under Service Export from India Scheme (SEIS) of Govt of India.

b) Conditions for reimbursement of levy/taxes if levied after receipt of tenders:

- i) Rates to be quoted by the parties, should be inclusive of all taxes, duties, CESS, fee, royalty charges etc. levied under any statute applicable on last stipulated date of receipt of tender including extension if any but exclusive of GST, ESI & PF. No adjustment i.e. increase or decrease shall be made for any variation in the rate of GST, Building and Other Construction Workers Welfare Cess or any tax, levy or cess applicable on inputs.

However, effect of variation, as per Govt. order after the last date of receipt of tender including extension if any, in rates of GST or Building and Other Construction Workers Welfare Cess or imposition or repeal of any other tax, levy or cess applicable on output of the works contract shall be adjusted on either side, increase or decrease.

Provided further that for Building and Other Construction Workers Welfare Cess or any tax (other than GST), levy or cess varied or imposed after the last date of receipt of tender including extension if any, any increase shall be reimbursed to the contractor only if the contractor necessarily and properly pays such increased amount of taxes/levies/cess.

Provided further that such increase in tax/levy/cess including GST shall not have reimbursed if made in the extended period of contract for which the contractor alone is responsible for delay as determined by authority for extension of time under Clause 5 in Schedule F.

- ii) The contractor shall keep necessary books of accounts and other documents for the purpose of this condition as may be necessary and shall allow inspection of the same by a duly authorized representative of AAI or the Engineer-in-Charge and further shall furnish such other information /document as the Engineer-in-Charge may require from time to time.

The contractor shall, within a period of 30 days of the imposition of any such further tax or levy or cess, give a written notice thereof to the Engineer-in-charge that the same is given pursuant to the condition, together with all necessary information/documents relating thereto.

- 18. a) If any further tax or levy is imposed by Statute, after the last stipulated date for the receipt of tender including extensions, if any, and the contractor thereupon necessarily and properly pay such taxes/ levies, the contractor shall be reimbursed the amount so paid, provided such payments, if any, is not, in the opinion of the Engineer-In-Charge (whose decision shall be final and binding on the contractor) attributable to delay in execution of work within the control of the contractor.
- b) The contractor shall keep necessary books of accounts and other documents for the purpose of this condition as may be necessary and shall allow inspection of the same by a duly authorized representative of Airports Authority of India and / or Engineer-In-Charge and further shall furnish such other information/document as the Engineer-In-Charge may require from time to time.
- c) The contractor shall, within a period of 30 days of the imposition of any such further tax or levy, pursuant to the Constitution (46th amendment) Act 1982, give a written notice thereof to the Engineer-In-Charge that the same is given pursuant to this condition, together with all necessary information relating thereto.

19. **MODE OF SUBMISSION OF TENDERS**

Tender for the present work shall be submitted online through e-tendering portal in two bids (i.e. Envelope I & II) system as detailed in WNIT.

The tenderers shall submit their applications, in the tender document and fill up the required information and upload the digitally signed file of scanned documents in the technical bid/ attachment section in the portal. Uploading of application in location other than specified above not shall be considered.

The Envelope-I shall be opened as mentioned in CRITICAL DATA SHEET of WNIT. The intimation regarding eligible/non-eligible for participation in the tendering will be intimated to the agencies through e-tendering CPP portal.

The intimation regarding acceptance/ rejection in the tendering will be intimated to the agencies through CPP e-tendering portal.

Rates to be quoted in the respective Section only in “Envelope-II”/ Price Bid where brief indicative description of item & unit have been given. Full description of Item & unit is available in **Schedule “A”** of GCC. Before quoting rates in respective section in Price bid,

the bidders are advised to read the full description of respective item & Unit from **Schedule "A". No other format is acceptable.**

Tenders shall be processed as below

Envelope-I: Containing Technical Documents (Uploaded by the contractors / firms) shall be opened on **as mentioned in CRITICAL DATA SHEET of WNIT**. The intimation regarding acceptance/ rejection of their bids will be intimated to the contractors / firms through CPP e-tendering portal.

Envelope-II: The date of opening of price bids, of the contractors/ firms found to be meeting the requirements of Envelope-I, shall be opened on **as mentioned in CRITICAL DATA SHEET of WNIT (In case the date and time for opening of Envelope-II (Financial bid) is required to be changed, the same shall be intimated through CPP portal).**

Note: Once the bidder has submitted the digitally signed file of Unconditional Acceptance of AAI's Tender Conditions, he is not permitted to upload any additional file or put any remark(s)/conditions(s).

AAI reserves the right to accept or reject any or all applications without assigning any reasons. AAI also reserves the right to call off tender process at any stage without assigning any reason.

Clarifications: If the bidder has any query related to the Tender Document of the work, they should use 'Seek Clarification' tab in CPP-tendering portal to seek clarifications. No other means of communication in this regard shall be entertained. Last date and time for raising query shall be as stipulated in NIT.

If any clarification is needed by AAI from the bidder about the deficiency in their uploaded documents in Envelope-I, they will be asked to provide it through CPP-tendering portal. The tenderer shall upload the requisite clarification/documents within time specified by AAI, failing which it shall be presumed that bidder does not have anything to submit and bid shall be evaluated accordingly.

Once the bidder has submitted the digitally signed documents as per NIT along with unconditional acceptance as an attachment, he is not permitted to upload any additional file or put any remark(s)/ conditions(s) in / along with the Tender Document

In case above conditions are found violated, the tender shall be rejected.

20. **COMPARISON AND EVALUATION OF TENDER**

- a) Prior to detailed evaluation, AAI will determine the substantial responsiveness of Tender document. A substantial responsive Tender is one, which confirms to all the terms and conditions of the Tender.
- b) A tender is determined as not responsive, if tender is submitted incomplete, annexures are not filled up, unconditional acceptance letter, minimum wages affidavit, integrity pact and power of attorney not found in proper form etc. as described above such tenders are liable to be rejected by AAI.
- c) Once the contractor has uploaded the digitally signed file of tender document along with other documents as an attachment, he is not permitted to upload any additional file or put any remark(s)/ conditions(s) in / along with the Tender Document.

- d) In case if any condition is found violated after opening Envelope-I i.e. Technical Bid, the tender shall be summarily rejected and AAI shall, without prejudice to any other remedy, be at liberty to take any suitable action, as deemed fit.

Only those tenderers whose Technical Bid documents are acceptable to AAI will be examined and their techno-commercial bid shall be evaluated to determine whether they are complete, meets tender requirements, free from computational errors, whether the data have been properly filled up, and whether the requisite documents as detailed have been submitted in conformity to the Tender specifications, drawings and conditions.

21. **Price/Financial bid**

The Price e-Bid through CPP e-portal.

- a) Tenderer should download the “Tender Document” file along with BOQ from the CPP e-tendering portal and upload the digitally signed BOQ file along with desired documents in Envelope-I.
- b) Rates to be quoted in the column mentioned for rate only.
- c) The offer from those contractors whose digitally signed required documents are not found in “Envelope-I” will not be considered and will stand rejected and Envelope-II (financial bid) of such contractors shall not be opened.
- d) Price bid shall only be accepted in the desired format. No other format shall be accepted.
- e) In case, the condition 29 (d) above is found violated, the tender shall be rejected.

22. **REJECTION OF TENDER**

- a) Airports Authority of India reserves the right to reject all the tenders or any of the tender or any part of tender without assigning any reason.
- b) AAI reserves the right at its sole discretion not to award any work under this tender. AAI shall not pay any costs or loss incurred by the tenderers in the preparation and submission of any requisite tender or technical proposal or to procure contract for any of the items described herein.
- c) If the tenderer deliberately gives wrong information or suppress any information in his Tender, AAI reserves the right to reject such tender at any stage or to cancel the contract, if awarded, and to forfeit the Earnest Money, absolutely, in addition to any other appropriate/legal action.
- d) Canvassing in any form in connection with the tenders is strictly prohibited and the tenders submitted by firms who resort to canvassing are liable for rejection.
- e) Any deviation in the Tender submission procedure will be considered as non-responsive bid and liable to be rejected.
- f) A Tenderer shall submit a responsive bid, failing which his Tender will be liable to be rejected.

- g) Tender in which any of the particulars and prescribed information are missing or are incomplete, in any respect and/or prescribed conditions are not fulfilled, shall be considered non-responsive and is liable to be rejected.
 - h) The tenderer is expected to examine the tender document including all instructions, forms, terms, specifications, drawings, etc. Failure to furnish all information required as per the tender documents or submission of a tender not substantially responsive to the tender document in any respect may result in the rejection of the tender.
 - i) A Tenderer shall submit the Tender which satisfies each and every condition laid down in this notice failing which the Tender will be liable to be rejected.
 - j) Any Tender not accompanied with tender processing fee and earnest money declaration in the prescribed form will be considered non-responsive and liable for rejection.
23. This notice of Tender shall form part of the contract documents. The successful Tenderer/contractor, on acceptance of his Tender by the Accepting Authority, shall within 15 days from the stipulated date of start of the work, sign the contract consisting of Notice inviting Tenders, General conditions of contract, special/additional condition, General and particular specifications, Tender conditions as issued at the time of invitation of Tender and acceptance thereof with any correspondence leading there to.
24. The tender for the work shall not be witnessed by a contractor or contractors who himself / themselves has/have tendered or who may have tendered for the same work. Failure to observe this condition would render tender of the contractor tendering as well as witnessing the tender, liable to summarily rejection.
25. AAI shall be the sole judge in the matter of evaluating & accepting technical bids, Price bids and award of contract and decision of AAI shall be final & binding.
26. AAI reserve the right to verify the credential submitted by the agency at any stage (before or after the award of work) If at any stage, any information / documents submitted by the applicant is found to be incorrect / false or have some discrepancy which disqualifies the firm then AAI shall take the following action:
- a) Forfeit the entire amount of EMD submitted by the tenderer.
 - b) The Tenderer shall be liable for debarment from tendering for a period upto two years in AAI in any name/style, apart from any other appropriate contractual / legal action.
27. **Queries, Replies and Clarifications:**
- i) If the Bidder has any query related to the Tender Document of the work, they should use seek clarification in CPP e-tendering portal to seek clarifications. No other means of communication in this regard shall be entertained. Query received after the date as mentioned in Critical data sheet of NIT shall not be entertained.
 - ii) If any clarification is needed by AAI from the Bidder about the deficiency in his uploaded documents in Envelope – I, they will be asked to provide it through respective folder in e-tendering portal. The tenderer shall upload the requisite clarification/documents within time specified by AAI, failing which it shall be presumed that bidder does not have anything to submit and bid shall be evaluated accordingly.

- iii) All the queries of the bidder pertaining to Bid procedure/ Technical support on CPP-portal (URL:- <http://etender.gov.in/eprocure/app>) for submission of tender documents should normally be addressed to AAI helpdesk support (details also mentioned in the web NIT) as below:

011-24626632
011-24632950, Extn - 3512, 011- 24632950 Extn - 3505
011-24647596

Mobile Numbers: 08510096161, 08510096262, 08510096363

Email address: esap1@aai.aero, etendersupport@aai.aero,
aniruddhasharma@aai.aero, gmit@aai.aero

- iv) In case of queries regarding bid procedure/technical support on e-tender portal, if the AAI helpdesk is non-responsive, the bid manager may be contacted, the details of Bid Manager as detailed below:

Name	:	Satyendra Singh
Telephone No.	:	011-24342517
Mobile No.	:	9810762595
E-mail ID	:	satyendras@aai.aero

- v) All bid procedure related queries be referred to helpdesk as above and then to Bid manager only. Please note that no bid procedure related queries should be referred to IEMs.

28. IMPLEMENTATION OF INTEGRITY PACT

- a) Signing of Integrity Pact (as per Annexure-XVIII of GCC) is mandatory for every Bidder/ contractor in this procurement/ bid process. Scanned copy of the same may be submitted in the Envelope-I in e-tender portal.
- b) The Bidder/ contractor shall commit itself to ensure taking 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 as specified in Section 2 of the integrity pact.
- c) Any breach of the aforesaid provisions by the bidder or any one employed by it or acting on its behalf (whether with or without the knowledge of the Bidder) shall entitle the authority to take all or any one of the action as specified in Section 5 of the integrity pact.
- d) The Independent External Monitor (IEM) for this work will be:

Shri Prabhat Ranjan Acharya,
IA & AS [Retd.]
Flat no. 501, Ganga Block no. 1
Pocket D-6, Vasant Kunj,
New Delhi - 110 070
Mobile no. - 9810400231
E-mail-prabhatacharya@gmail.com

Shri Kuldip Kumar Peshin,
CE & MES [Retd.]
W2B046, Wellington Estate
DLF-5, Gurgaon,
Haryana - 122009
Mobile no. - 9810922190
E-mail - kkpeshin@yahoo.com

- e) The duties responsibilities and powers of IEM are detailed in section 7 of the IP Act.
 - f) In case any violation of above conduct is established, AAI reserves right to take following actions.
 - i) If contractor commits a violation of its commitments and obligations under the Integrity Pact Program during bidding process, he shall be liable for disqualification from tender process.
 - ii) In case of violation of the Integrity Pact after award of the contract, Authority is entitled to terminate the contract and shall be entitled to demand and recover from the contractor damages equivalent to 5% of the contract value or the amount equivalent to Security Deposit or Performance Bank Guarantee, whichever is higher.
 - iii) Authority may initiate appropriate proceedings against the contractor.
 - iv) Contractor will be liable to pay damages as determined by the Authority.
 - v) Contractor against whom an action for violation of its commitments and obligations has been taken earlier, again commits a violation, the Authority is entitled to debar such contractor for future tender/ contract processes for a period as deemed fit.
 - vi) A violation is considered to have occurred if the Authority is fully satisfied with the available documents and evidence submitted along-with Independent External Monitor's recommendations / suggestions that no reasonable doubt exist in the matter.
 - g) Any query related to tender document or problem in e-bidding process should normally be addressed to bid manager as mentioned in General Instruction for Online bid submission in para "Assistance to Bidders" on section GGB of tender document. No bid procedure related query shall be referred to Independent External Monitors (IEMs).
 - h) Update with regard Integrity Pact may please be seen on AAI Website by following the access path www.aai.aero>Vigilance>Vigilance Events>Integrity Pact
 - i) The Consequence of Integrity Pact may be perused on the website. <http://www.aai.aero/>
29. Once the bidder has submitted the digitally signed documents as per NIT along with unconditional acceptance as an attachment, he is not permitted to upload any additional file or put any remark(s)/conditions(s) in/ along with the Tender Document (Except unconditional rebate on quoted rates i.e. header discount (%) if any).
30. The Bid of subject procurement shall be strictly evaluated as per OM issued by Government of India, Ministry of Finance, Department of Expenditure, vide file number PPD - 6/18/2019-PPD Dated 23 rd July 2020 on the subject "Restrictions under Rule 144 (xi) of the General Financial Rules (GFRs)" and "Exclusion from restrictions under Rule 144 (xi) of the General Financial Rules (GFRs), 2017 with up to date amendments.

Bidders are required to refer above OM in detail before submitting their bid. The referred OM is in public domain and can be accessed through web site of Department of

Expenditure, Ministry of Finance, Government of India. Necessary compliance to above OM shall be uploaded on e-tendering portal by bidder.

Preference to Make in India order 2017 of GoI shall also be applicable for evaluation of bid.

31. **EVALUATION OF CREDENTIALS:**

For determining eligibility of tenderer in terms of work experience and financial turnover, estimated cost shall be considered exclusive of GST, ESI, PF cost. The Bidder shall give undertaking mentioning whether the GST/Pre GST Taxes, ESI & PF are included in the completion cost or not in the client completion certificate. If included, the bidder shall mention the percentage/ break up cost of these components

In case of non-submission of required undertaking, AAI shall determine GST/Pre GST Taxes, ESI & PF components as per CPWD / AAI guidelines amended time to time and shall carry out further evaluation accordingly

32. **STANDARD PRINTED CONDITIONS**

Standard printed conditions of the tenderer if any submitted along with the offer will not be accepted.

AGM (Engg-Civil)
Bid Manager
(For and on behalf of the Chairman)
Airports Authority of India
B- Block, 3rd floor, Engineering Wing
Rajiv Gandhi Bhawan, Safdarjung Airport,
New Delhi-110003, INDIA

TECHNICAL BID AND PRE-QUALIFICATION PROFORMA

To be uploaded by Applicants along-with the Tender Application in Envelope-I.

Name of Work: Construction of New Civil Enclave at Jammu Airport (Phase-I). SH: Construction of Apron and associated works for parking of 13 Nos. AB-321 type of Aircraft.

S. No.	Qualifying criterion	Enclosure Check-list
Envelope-I		
1.	Name and registered office address of the Applicant Contractor/Firm/ Joint Venture Company duly registered/consortium of firms / companies	
2.	Telephone, Fax & E-mail	
3.	Online payment of Tender Processing Fee.Scanned copy of Challan generated.	Uploaded on portal:Yes / No
4.	Details of Earnest Money Deposit. Scanned copy of Challan generated / Bank Guarantee/Insurance surety Bond (Annexure-1A)	Uploaded on portal:Yes / No
5.	Letter of undertaking from the depositor to the bank as per Annexure -1c	Uploaded on portal:Yes / No
7.	Request letter for BG transmission as per Annexure -1b	Uploaded on portal:Yes / No
8.	Copy of SFMS BG Confirmation	Uploaded on portal:Yes / No
9.	Digitally Signed Unconditional Acceptance ofAAI's Tender Conditions as per Annexure-2	Uploaded on portal:Yes / No
10.	Digitally Signed Integrity Pact as per Appendix-XVIII	Uploaded on portal:Yes / No
11.	Scanned copy of Permanent Account No.(PAN)	Uploaded on portal:Yes / No
12.	Scanned copy of GST Registration No	Uploaded on portal:Yes / No
13.	Details of Bid Capacity of Bidder (As per Annexure -11, Form B, C, D, E)	Uploaded on portal:Yes / No
14.	Digitally Signed 'Undertaking' regarding Blacklisting/ Debarment on Company's LetterHead (As per Annexure-3)	Uploaded on portal:Yes / No
15.	Digitally Signed 'Undertaking' regarding Deployment of sufficient plant and machinery as per the requirement of work on Company's Letter Head (As per Annexure-4)	Uploaded on portal: Yes / No
16.	Financial Information as per Form B	Uploaded on portal:Yes / No

S. No.	Qualifying criterion	Enclosure Check-list
17.	Undertaking from parent company as per Annexure-12	Uploaded on portal:Yes / No
18.	Digitally signed 'Undertaking' for GST Registration & Complying its provisions (Annexure-8).	Uploaded on portal:Yes / No
19.	Digitally signed 'Undertaking' regarding Compliance of Minimum Wages on Company's Letter Head (Annexure-9).	Uploaded on portal:Yes / No
20.	Performa for declaration by Bidder for compliance of order on Restriction under Rule 144(xi) of the General Financial Rules (GFRs)-2017 as per Annexure -5	Uploaded on portal:Yes / No
21.	Undertaking regarding PF & ESI as per annexure- 13	Uploaded on portal:Yes / No
22.	Technical Bid – Duly filled PQ Performa	Uploaded on portal:Yes / No
23.	WORK EXPERIENCE: Qualifying / PQ requirements of Contractor /Firm as detailed in para 2.	Uploaded on portal: Yes / No
23.1	Work No. 1	
23.1.1	Name of Work: Criteria: Should have satisfactorily completed (# Phase/Part completion of the scope of work in a contract shall not be considered, however pre- determined phasing of the work will be accepted) three works, each of Rs 23.04 Cr or two works, each of Rs. 28.80 Cr or one work of Rs. 46.08 Cr in single contract of similar nature of as specified in para 2 (C) of WNIT during last seven years ending last day of previous month to the one in which tenders are invited i.e. 31.10.2023.	
23.1.2	Nature of work done	
23.1.3	Work order / Agreement No. & date	
23.1.4	Date of Start	
23.1.5	Date of Completion as per agreement	
23.1.6	Actual Date of Completion	
23.1.7	Actual Completion Cost	
23.1.8	Completion certificate issuing authority name and designation	
23.1.9	Details of TDS Amount	
23.2	Work No. 2	

S. No.	Qualifying criterion	Enclosure Check-list
23.2.1	Name of Work: Criteria: Should have satisfactorily completed (# Phase/Part completion of the scope of work in a contract shall not be considered, however pre- determined phasing of the work will be accepted) three works, each of Rs 23.04 Cr or two works, each of Rs. 28.80 Cr or one work of Rs. 46.08 Cr in single contract of similar nature of as specified in para 2 (C) of WNIT during last seven years ending last day of previous month to the one in which tenders are invited i.e. 31.10.2023.	
23.2.2	Nature of work done	
23.2.3	Work order / Agreement No. & date	
23.2.4	Date of Start	
23.2.5	Date of Completion as per agreement	
23.2.6	Actual Date of Completion	
20.2.7	Actual Completion Cost	
23.2.8	Completion certificate issuing authority name and designation	
23.2.9	Details of TDS Amount	
23.3	Work No. 3	
23.3.1	Name of Work: Criteria: Should have satisfactorily completed (# Phase/Part completion of the scope of work in a contract shall not be considered, however pre- determined phasing of the work will be accepted) three works, each of Rs 23.04 Cr or two works, each of Rs. 28.80 Cr or one work of Rs. 46.08 Cr in single contract of similar nature of as specified in para 2 (C) of WNIT during last seven years ending last day of previous month to the one in which tenders are invited i.e. 31.10.2023..	
23.3.2	Nature of work done	
23.3.3	Work order / Agreement No. & date	
23.3.4	Date of Start	
23.3.5	Date of Completion as per agreement	
23.3.6	Actual Date of Completion	
23.3.7	Actual Completion Cost	
23.3.8	Completion certificate issuing authority name and designation	
23.3.9	Details of TDS Amount	
24.	Annual Financial Turnover as per Form B (Rs. 17.28 Cr)	Uploaded on portal:Yes / No

S. No.	Qualifying criterion	Enclosure Check-list
25.1	Copy of Abridged Balance Sheet alongwith Profitand Loss account statement of the firm	
25.1.1	FY 2022-23	
25.1.2	FY 2021-22	
25.1.3	FY 2020-21	
25.1.4	Average	
25.2	Continuous losses for the last three years under profit and loss account statement of balance sheet, if any	Uploaded on portal:Yes / No
25.2.1	FY 2022-23	
25.2.2	FY 2021-22	
25.2.3	FY 2020-21	
26.	Certificate for minimum net worth of Rs.8.64 Cr. issued by certified Chartered Accountant.	Uploaded on portal:Yes / No
27.	Power Attorney	Uploaded on portal:Yes / No
28.	Certificate of Incorporation of the Company (i/c name of directors)	Uploaded on portal:Yes / No
29.	Copy of Board Resolution	Uploaded on portal:Yes / No
30.	Details of any other information	Uploaded on portal:Yes / No

Place:

SIGNATURE WITH STAMP

Date:

Authorized signatory of the Firm

Note:-

1. Bidder has to ensure that they will submit the documents only for the works which are to be considered for PQ qualification and their details must be provided in the proforma mentioned above. No irrelevant documents / information to be submitted along the bid.
2. Non submission of required documents for PQ would make the tender liable for rejection.

**AIRPORTS AUTHORITY OF INDIA
GENERAL CONDITIONS OF CONTRACT**

INDEX

Sl. No.	Details of Pages	Page No.
1.	General Guidelines	GCC-2
2.	Tender forms	GCC-3
i)	General Rules and Directions.	GCC-5
ii)	Conditions of contract	GCC-13
iii)	Clauses of contract	GCC-17
iv)	AAI Safety code	GCC-86
v)	Model Rules	GCC-91
vi)	AAI contractor's labour Regulations	GCC-96
vii)	Various Formats to be maintained (Appendix)	GCC-101
viii)	Sketch of Cement Godown	GCC-134
3.	Proforma of Schedules A to F	GCC-135

GENERAL GUIDELINES

- ~~1. This book of "General Conditions of Contract" is applicable to both types of tenders i. e. "Percentage rate tenders and Item rate tenders". Accordingly, alternative provisions for conditions Nos. 4, 10 & 12 of the General Rules and Directions are given in this book. The appropriate alternatives will be applicable in specific cases depending on whether this is used for percentage rate tenders or item rate tenders~~
2. Notice Inviting Tender, Schedules A to F, special conditions/specifications and drawings only will be issued to intending bidders. The standard form will not be issued along with the Tender Documents but the same shall form part of the agreement to be drawn and signed by both parties after acceptance of tender.
- ~~3. All blanks are confined to Notice Inviting Tender and Schedules A to F.~~
- ~~4. Authority approving the Notice Inviting Tenders (NIT) shall fill up all the blanks in Notice Inviting Tender and in Schedules B to F before issue of Tender documents.~~
5. The intending bidders will quote their rates in Schedule A.
6. The proforma for registers and Schedules A to F are only for information and guidance. These are not to be filled in the Standard Form. The Schedules with all blanks, duly filled, shall be separately issued to all intending tenderers.

AIRPORTS AUTHORITY OF INDIA

Item Rate Tender & Contract for Work

Airport: Jammu Airport

Branch : Jammu Airport

Office of: AGM (E-C)-NR, AAI, Delhi

(A) Tender for the work of:- Construction of New Civil Enclave at Jammu Airport (Phase-I). SH: Construction of Apron and associated works for parking of 13 Nos. AB- 321 type of Aircraft.

(i) To be submitted/ uploaded as per date and time mentioned in CRITICAL DATA SHEET in NIC CPP Portal.

(ii) To be opened in presence of tenders who may be present on at hrs. in the office of

Issued to _____
issuing _____
* Designation _____
Date of issue _____
* _____
Signature of officer _____

DELETED

*(ii) Not applicable for e-tendering

TENDER

I/We have read and examined the notice inviting tender, schedule, A, B, C, D, E & F, Specifications applicable, Drawings & Designs, General Rules and Directions, Conditions of Contract, Clauses of contract, Special conditions, Schedule of Rates & other documents and Rules referred to in the conditions of contract and all other contents in the tender document for the work.

I / We hereby tender for the execution of the work specified for the Chairman Airports Authority of India within the time specified in Schedule 'F', viz., schedule of quantities and in accordance in all respects with the referred to in Rule-1 of General Rules and Directions and in Clause 11 of the Conditions of contract and with such material as are provided for, by and in respects in accordance with, such conditions so far as applicable.

We agree to keep the tender open for Ninety (90) days from the date of opening of financial bid in 3/2 bid system and not to make any modifications in its terms and conditions.

I / We undertake and confirm that for eligibility of similar work(s) has / have not been got executed on back to back basis through another contractor. Further that, if such a violation comes to the notice of AAI, then I/We shall accept the decision of AAI if we are debarred for tendering in AAI in future works. Also, if such a violation comes to the notice of AAI before date of start of work, the Engineer- in-Charge shall be free to forfeit the entire amount of Earnest Money Deposit / Performance Guarantee.

I / We further undertake and confirm that information/ documents submitted by us are genuine, and if at any stage such documents/ information found false, then we shall be liable for debarment from tendering in AAI, and any other appropriate legal action.

A sum of **Rs. 82.60 Lakhs** is hereby submitted as online on CPP Portal /BG/Insurance Surety Bonds in the format prescribed in tender documents as earnest money (Annexure-1, 1A, 1B & 1C). If I/we, fail to furnish the prescribed performance bank guarantee within prescribed period, I/we agree that the said Chairman, A.A.I. or his successors in office shall without prejudice to any other right or remedy, be at liberty to take appropriate action as per terms of contract. Further, if I/ we fail to commence work as specified, I/we agree that Chairman, A.A.I. or his successors in office shall without prejudice to any other right or remedy available in law, be at liberty to forfeit the said earnest money absolutely, otherwise the said earnest money shall be retained by AAI towards security deposit to execute all the works referred to in the tender documents upon the terms and conditions contained or referred to therein and to carry out such deviations as may be ordered, upto maximum of the percentage mentioned in Schedule 'F' and those in excess of that limit at the rates to be determined in accordance with the provision contained in Clause 12.2 and 12.3 of the tender form. Further, I/We agree that in case of forfeiture of earnest money or Performance Guarantee or both Earnest Money & Performance Guarantee as aforesaid, I/We shall be debarred for participation in the re-tendering process of the work.

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.

Date : Signatures of Contractor :

Witness: Postal Address

Occupation:

ACCEPTANCE

The above tender (as modified by you as provided in the letters mentioned hereunder) is accepted by competent authority on behalf of the Chairman, Airports Authority of India for sum of Rs. (Rupees).

The letters referred to below shall form part of this contract Agreement:-

- (i)
- (ii)
- (iii)

For & on behalf of Chairman,
Airports Authority of India
Signature.....

Designation.....

Date.....

AIRPORTS AUTHORITY OF INDIA
General Rules & Directions

1.	General Rules & Directions	<p>All work proposed for execution by contract are notified in a form of invitation to tender pasted in public places /NIC CPP Portal and signed by the officer inviting tender or by publication in Newspapers and posted on AAI web-site and NIC CPP Portal http://etenders.gov.in and www.aai.aero (for reference only).</p> <p>This form will state the work to be carried out, as well as the date for submitting and opening tenders and the time allowed for carrying out the work, also the amount of earnest money to be deposited with the tender, and the amount of the security deposit and Performance guarantee to be deposited by the successful tenderer and the percentage, if any, to be deducted from bills. Copies of the specifications, designs and drawings and any other documents required in connection with the work signed for the purpose of identification by the officer inviting tender shall also be open for inspection by the contractor at the office of Officer inviting tender during office hours.</p>
2.		<p>In the event of the e-tender being submitted by a firm, it must be digitally signed. Such tender will be treated as signed tender. For physical tender it must be signed separately by each partner thereof or in the event of the absence of any partner, it must be signed on his behalf by a person holding a power-of-attorney authorizing him to do so, such power of attorney to be produced with the tender, and it must disclose that the firm is duly registered under the Indian Partnership Act, 1952.</p>
2. (A)		<p>In case of the tender submitted by a Joint Venture / Consortium, a copy of joint venture / consortium agreement in the specified proforma defining the lead partner should be submitted. The lead partner shall sign all the documents in respect of the works. The documents signed by any other person or firm other than the lead partner shall not be entertained.</p>
3.		<p>Receipts for payment made on account of work, when executed by a firm, must also be signed by all the partners, except where contractors are described in their tender as a firm, in which case the receipts must be signed in the name of the firm by one of the partners, or by some other person having due authority to give effectual receipts for the firm. Bank details shall be furnished by the firm through an application duly signed by all partners for payment to the firm through bank transfer.</p>
4.	Applicable for item Rate Tender only.	<p>Any person who submits a tender shall fill up the usual printed form, stating at what rate he is willing to undertake each item of the work. Tenderers, which propose any alteration in the work specified in the said form of invitation to tender, or in the time allowed for carrying out the work, or which contain any other conditions of any sort, including conditional rebates, will be summarily rejected. No single tender shall include more than one work, but contractors who wish to tender for two or more works shall submit separate tender for each. Tender shall have the name and number of the works to which they refer, written on the envelopes. The rate(s) must be quoted in decimal coinage. Amount must be quoted in full Rupees by ignoring</p>

		<p>50 paise and considering more than 50 paise as Rupee one. In case the lowest tendered amount (worked out on the basis of quoted rate of Individual items) of two or more contractors is same, then such lowest contractors will be asked to submit revised offer quoting rate of each item of the schedule of quantity for all sub sections/sub heads as the case may be, but the revised quoted rate of each item of schedule of quantity for all sub sections/sub heads should not be higher than their respective original rate quoted already at the time of submission of tender. The lowest tender shall be decided on the basis of revised offer. If the revised tendered amount (worked out on the basis of quoted rate of individual items) of two or more contractors received in revised offer is again found to be equal, then the lowest tender, among such contractors, shall be decided by draw of lots in the presence of Jt. GM (Engg) / DGM (Engg) / AGM (Engg) / Sr. Manager (Engg) in-Charge of major and minor component(s) work and the lowest contractors those have quoted equal amount of their tenders. In case of any such lowest contractor in his revised offer quotes rate of any item more than their respective original rate quoted earlier at the time of submission of tender, then such revised offer shall be treated invalid. Such case of revised offer of the lowest contractor or case of refusal to submit revised offer by the lowest contractor shall be treated as withdrawal of his tender before acceptance and 50% of his earnest money shall be forfeited. In case all the lowest contractors those have same tendered amount (as a result of their quoted rate of individual items), refuse to submit revised offers, then tenders are to be recalled after forfeiting 50% of EMD of each lowest contractors. Contractor, whose earnest money is forfeited because of non-submission of revised offer, or quoting higher revised rate(s) of any item(s) than their respective original rate quoted already at the time of submission of his bid shall not be allowed to participate in the retendering process of the work.</p> <p>Note: Till the time software supports the above provisions, revised offers from tenderers forming the tie shall be obtained and procedure prescribed for "Restricted call of tenders" shall be adopted (for e-tenders).</p>
<p>4. (A)</p>	<p>Applicable for Percentage Rate Tender only.</p>	<p>In case of Percentage Rate Tenders, tenderer shall fill the usual printed form, stating at what percentage below/above (in figures as well as in words) the total estimated cost given in the Schedule of Quantities at Schedule-A, he will be willing to execute the work. The tender submitted shall be treated as invalid if: 1. The contractor does not quote percentage above/below of the total amount of tender or any section/sub-head of the tender. 2. The percentage above / below is not quoted in figures and words both on the total amount of tender or any section / sub-head of the tender. 3. The percentage quoted above/below is different in figures and words on the total amount of tender or any section / sub-head of the tender. Tenders, which propose any alteration in the work specified in the said form of invitation for tender, or in the time allowed for carrying out the work, which contain any other conditions of any sort including cost-cutting rebates, will be summarily rejected. No single tenderer shall include more than one work, but contractors who wish to tender for two or more works shall submit separate tender for each. Each tender shall have the name and number of the works to which they refer, written on the envelopes. In case the lowest tendered</p>

	<p>amount (estimated cost + amount worked on the basis of percentage above/below) of two or more bidders is same, such lowest bidders will be asked to submit revised offer in the form of letter mentioning percentage above/ below on estimated cost of tender including all sub sections/sub heads as the case may be. The revised percentage quoted above / below on tendered cost for each sub section/ sub head should not be higher than the percentage quoted at the time of submission of tender. The lowest tender shall be decided on the basis of revised offers. In case any of such contractor refuses to submit revised offer, then it shall be treated as withdrawal of his tender before acceptance and 50% of earnest money shall be forfeited. If the revised tendered amount of two more bidders received in revised offers is again found to be equal, the lowest tender, among such contractors, shall be decided by draw of lots in the presence of Jt. GM (Engg) / DGM (Engg) / AGM (Engg) / Sr. Manager (Engg) in charge of work & the lowest bidders those who have quoted equal amount of their tenders. In case all the lowest bidders have quoted same tendered amount, refuse to submit revised offers, then tenders are to be recalled after forfeiting 50% of EMD of each bidder. Bidders, whose earnest money is forfeited because of non-submission of revised offer, shall not be allowed to participate in the re-tendering process of the work. Note: Till the time software supports the above provisions, revised offers from tenders forming the tie shall be obtained and procedure prescribed in "Restricted call of tenders" shall be adopted.</p>
4. (B)	<p>In case the lowest tendered amount (estimated cost + amount worked on the basis of percentage above/below) of two or more contractor is same, such lowest contractor will be asked to submit sealed revised offer in the form of letter mentioning percentage above/below on estimated cost of tender including all sub section/sub heads as the case may be. The revised percentage quoted above/below on tendered cost for each sub section /sub head should not be higher than the percentage quoted at the time or submission of tender. The lowest tender shall be decided on the basis of revised offers. In case any of such contractor refuses to submit revised offer, then it shall be treated as withdrawal of his tender before acceptance and 50% of earnest money shall be forfeited. If the revised tendered amount of two more contractors received in revised offers is again found to be equal, the lowest tender, among such contractors shall be decided by draw of lots in the presence of Jt. GM (Engg) / DGM (Engg), AGM (Engg) / Sr. Manager (Engg) in charge of major & minor component(s) of work & the lowest bidder those who have quoted same tendered amount of their tenders. In case all the lowest contractors those have quoted same tendered amount, refuse to submit revised offers, then tenders are to be recalled after forfeiting 50% of EMD of each bidder. Bidders whose earnest money is forfeited because of non-submission of revised offer, shall not be allowed to participate in the re-tendering process of the work.</p>
5.	<p>The officer inviting tender or his duly authorized representative, will open tenders in the presence of any intending bidders who may be present at the time, and will enter the amounts of the several tenders in a comparative statement in a suitable form. In the event</p>

		of a tender being accepted, a receipt for the earnest money shall thereupon be given to the contractor who shall thereupon for the purpose of identification sign copies of the specifications and other documents mentioned in Rule - I. In the event of a tender being rejected, the earnest money shall thereupon be returned to the contractor remitting the same, without any interest.
6.		The officer inviting tenders shall have the right of rejecting all or any of the tenders and will not be bound to accept the lowest or any other tender.
7.		The receipt of an accountant or clerk for any money paid by the bidder towards tender fee will not be considered as any acknowledgement or payment to the officer inviting tender and the bidder shall be responsible for seeing that he procures a receipt signed by the officer inviting tender or a duly authorized cashier.
8.		The memorandum of work tendered for and the schedule of materials to be supplied by the department and their issue-rates, shall be filled and completed in the office of the officer inviting tender before the tender form is issued. If a form is issued to an intending bidder without having been so filled in and incomplete, he shall request the officer to have this done before he completes and delivers his tender.
9.		The bidders shall sign a declaration under the officials Secret Act 1923, for maintaining secrecy of the tender documents drawings or other records connected with the work given to them. The unsuccessful bidders shall return all the drawings given to them.
9(A).		Use of correcting fluid anywhere in tender is not permitted. Such tender is liable for rejection. If any correction is made, the bidder shall be liable for the same. The bidder should be informed that the rates quoted should be on all the rates quoted in case of physical tenders.
10.	Applicable for Item Rate Tender Only.	In the case of Item Rate Tenders, only rates quoted shall be considered. Any tender containing percentage below / above the rates quoted is liable to be rejected. Rates quoted by the bidder in item rate tender in figures and words shall be accurately filled in so that there is no discrepancy in the rates written in figures and words. However, <ul style="list-style-type: none"> i. If a discrepancy is found between rates in figures and in words, then the rates which correspond with the amount worked out by the bidder shall unless otherwise proved be taken as correct. ii. If the amount of an item is not worked out by the bidder or it does not correspond with the rates written either in figures or in words, then the rates quoted by the contractor in words shall be taken as correct. iii. Where the rates quoted by the bidder in figures and in words tally, but the amount is not worked out correctly, the rates quoted by the contractor will unless otherwise proved be taken as correct and not the amount. iv. In event no rate has been quoted for any item(s) leaving space blank both in figure(s) and word(s) or cancelled the quoted rate in figure(s), and word(s) but the amount corresponding to the item(s) is worked out by the bidder and added to the grand total, then rate(s) of the item(s)

		<p>shall be derived from the amount(s) quoted by the contractor against such item(s).</p> <p>v. In event no rate has been quoted for any item(s), leaving space both in figure(s), word(s), and amount blank, it will be presumed that the bidder has included the cost of this/these item(s) in other items and rate for such item(s) will be considered as zero and work will be required to be executed accordingly.</p> <p>vi. Sub Para i to iv above shall not be applicable in case of e-tendering</p>
	Applicable for percentage rate tender only .	<p>In case of percentage Rate Tenders only percentage quoted shall be considered. Any tender containing item rates is liable to be rejected. Percentage quoted by the bidder in percentage rate tender shall be accurately filled in figures and words so that there is no discrepancy. However, if the bidder has worked out the amount of the tender and if any discrepancy is found in the percentage quoted in words and figures,</p> <p>i. The percentage which corresponds with the amount worked out by the bidder shall be taken as correct, otherwise proved, be taken as correct.</p> <p>ii. If the amount of the tender is not worked out by the bidder or it does not correspond with the percentage written either in figures or in words, then the percentage quoted by the bidder shall be taken as correct.</p> <p>iii. When the percentage quoted by the bidder in figures and in words is correct but the amount is not worked out correctly, the percentage quoted by the bidder will, unless otherwise proved, be taken as correct and not the amount</p>
11.		In the case of any tender where unit rate of any item / items appear unrealistic, such tender will be considered as unbalanced and in case the tenderer is unable to provide satisfactory explanation, such a tender is liable to be disqualified and rejected.
12.	Applicable for Item Rate Tender only.	All rates shall be quoted on the tender form. The amount for each item should be worked out and requisite totals given. Special care should be taken to write the rates in figures as well as in words and the amount in figures only, in such a way that interpolation is not possible. The total amount should be written both in figures and in words. In case of figures, the word 'Rs' should be written before the figure of rupees and word 'P' after the decimal figures, e.g. 'Rs. 2.15 P' and in case of words, the word 'Rupees' should precede and the word 'Paise' should be written at the end. Unless the rate is in whole rupees and followed by the word 'only' it should invariably be upto two decimal places. While quoting the rate in schedule of quantities, the word 'only' should be written closely following the amount and it should not be written in the next line
12(A).	Applicable for percentage rate tender only.	In Percentage Rate Tender, the tenderer shall quote percentage below / above (in figures as well as in words) and he will be willing to execute the work. However, the total amount of his offer and the same shall be written in figures as well as in words in such a way that interpolation is possible. In case of figures, the word 'Rs' should be written before the figure of rupees and word 'P' after the decimal figures, e.g. 'Rs. 2.15 P' and in case of words, the word 'Rupees' should precede and the word 'Paise'

		<p>should be written at the end. (quoting of rates in Paise is not applicable)</p> <p style="text-align: center;">DELETED</p>
13	Acceptance of abnormally low quoted bid (Capital & Revenue Expenditure Contract)	<p>Wherever the price of the lowest bidder is lower than the justified cost by more than 25%, lowest bidder shall be treated as Abnormally Low Quoted Bid (ALQB). Procedure shall be as follows:</p> <ol style="list-style-type: none"> i) The bid processing Manager shall seek from lowest bidder, a Bank Guarantee amounting to 10% of the difference between 75% of the justified cost and the price quoted by the bidder. This bank guarantee shall be known as Quality Protection Bank Guarantee (QPBG) and shall be over and above the normal bank guarantee and shall be valid up to the completion of the work. ii) The lowest bidder shall submit QPBG within 10 days of issue of letter from the Bid Manager. iii) On receipt of QPBG from lowest bidder, the bid processing Manager shall refer the case to the officer competent to accept the tender as per delegation of powers. iv) In case of Package Rate Tenders, QPBG shall be asked for 10% of the difference between 75% of the justified cost and the corrected price marked out on the basis of percentages quoted by the bidder. v) This QPBG for any tender shall be a fixed amount as one time measure and will not vary at any stage during the currency of the work of contract. vi) The justified cost worked out by AAI shall be final and binding on contractor. vii) In case of labor intensive ALQB like MESS, Annual Maintenance and other similar works, contractor shall transfer / deposit salary of the individual worker to their bank account which should be linked with AADHAR and a statement to be submitted to AAI along with each running and final bill. <p>If lowest bidder fails to submit QPBG within the time, as decided by Bid Manager or contractor does not transfer / deposit salary of the individual worker to his / her bank account which should be linked with AADHAR and does not submit statement to AAI as the case may be the tender shall be rejected / foreclosed and EMD / SD collected till date shall be forfeited.</p> <p>In case of non-execution / completion of the work, QPBG and SD collected till date shall be forfeited.</p>
13A		<p>In case contractor does not carry out the work on ALQ items as per schedule or as per NIT specifications, the Engineer-in-charge shall issue a letter to the contractor to comply its obligations as per schedule for ALQ items. Engineer-in-charge shall also give one month time to contractor after 10 days of 1st letter and if contractor still do not carry out the work on ALQ items, then bank guarantee i.e. QPBG should be encashed and work should be got executed through another agency at his risk and cost.</p>

14.		<p>i. The bidder, whose tender is accepted, will be required to furnish performance guarantee of 5% (Five Percent) of the tendered amount within the period specified in Schedule F. This guarantee shall be in the form of Fixed Deposit Receipts or Insurance Surety Bonds or Guarantee Bonds of any Scheduled Bank but not co-operative or Gramin Bank (schedule or non-schedule), in accordance with the prescribed form, provided confirmatory advice is enclosed.</p> <p>ii. The bidder, whose tender is accepted, will also be required to furnish by way of Security Deposit for the fulfillment of his contract, an amount equal to 5% of the contract amount of the work.</p> <p>iii. In works where condition of submission of Performance Guarantee is not applicable, the security deposit @ 10% of the tendered value shall be deducted.</p> <p>iv. The Security deposit (under ii & iii above) will be collected by deductions from the running bills of the contractor at the rates mentioned above and the earnest money deposited at the time of tenders, will be treated as a part of the Security Deposit.</p> <p>v. Security deposit will also be accepted in form of Fixed Deposit Receipts / Insurance Surety Bonds / Guarantee Bonds of any Scheduled Bank but not co-operative or Gramin Bank (schedule or non-schedule) in accordance with the prescribed form, provided confirmatory advice is enclosed.</p>
15.		<p>On acceptance of the tender, the name of the accredited representative(s) of the contractor who would be responsible for taking instructions from the Engineer-in- Charge shall be communicated in writing to the Engineer-in-Charge.</p>
16.		<p>1. Rates to be quoted by the parties should be inclusive of all taxes, duties, CESS, fee, royalty charges etc. levied under any statute but exclusive of GST for all the items.</p> <p>2. However GST, as applicable, shall be paid to the contractor, for any taxable supply / services / construction rendered by the agency to AAI, against a valid GST invoice as per terms and conditions of the contract.</p> <p>3. In case supplies /services / works involve imports; the same should be identified separately. Basic Custom Duty & IGST will be paid directly by AAI by utilizing EPCG license / Duty Credit Scrip under service Export from India Scheme (SEIS) of Govt. of India</p>
17.		<p>The contractor/ bidder shall give a list of AAI employees related to him.</p>
18.		<p>The tender for the work shall not be witnessed by a contractor or contractors / bidders who have tendered or who may have tendered for the work or who have observed the opening of the tenders of the contractors tendering for the work, and who are not authorized by the Engineer-in-Charge, liable to summary rejection.</p>
19.		<p>The tender for composite work includes, in addition to building work, all other works such as sanitary and water supply installations drainage installation, electrical work, horticulture</p>

		work, roads and paths etc. The tenderer apart from being a registered contractor (B&R) of appropriate class, must associate himself with agencies of appropriate class which are eligible to tender for sanitary and water supply drainage, electrical and horticulture works in the composite tender.
20.		The contractor/ bidder shall submit list of work completed in last 5 years*as well as which are in progress in the following format:-
DELETED		
	Name of work	Remarks
	1	2
	3	4
	5	

21		The contractor/bidder shall comply with the provisions of the Apprentices Act 1961, and the rules and orders issued there under from time to time. If he fails to do so, his failure will be a breach of the contract and the Executive Director (Engg.) may in his discretion, without prejudice to any other right or remedy available in law, cancel the contract. The contractor shall also be liable for any pecuniary liability arising on account of any violation by him of the provisions of the said Act.
22	Not Applicable for this work.	If complete site is available for work, the work shall be completed in the manner specified here in special condition of contract and NIT specifications. Note: In such case para 23 below may be deleted by NIT approving authority
23		If complete site is not available for taking up the work, the same shall be made available in phases. The scope of work in each phase, time for completion of work in each phase, method of taking over completed work in phase, etc. shall be specified in the special conditions of contract. The completion of each phase shall be applicable as indicated in the documents. The work shall also be taken over by Engineer-In-charge in phases. The warranty for the work shall be applied independently w.e.f. date of completion of individual phase. Note: In such case para 22 above may be deleted by NIT approving authority

CONDITIONS OF CONTRACT

Definitions:

1.		<p>The contract means the documents forming the tender and acceptance thereof and the formal agreement / agreements executed between the competent authority(s) on behalf of the Chairman, Airports Authority of India and the Contractor, together with the documents referred to therein including these conditions, the specifications, designs, drawings and instructions issued from time to time by the Engineer-in-Charge and all these documents taken together, shall be deemed to form one contract / two contracts and shall be complimentary to one another. Contractor has to sign two agreements, one consisting BOQ for Civil works and another one for SITC and O&M/ AMC / AICMC part. Engineer-in charge could be common for both the agreements. Separate invoices for the civil /construction works and SITC / O&M / AICMC / AMC works have to be raised by the agency referring to the respective agreements to facilitate AAI to claim input tax credit on such SITC / O&M / AICMC / AMC works as mentioned in Schedule 'F' para 2(v).</p>
2.		<p>In the contract, the following expressions shall, unless the context otherwise requires, have the meanings, hereby respectively assigned to them:-</p>
		<ul style="list-style-type: none"> i. The expression works or work shall, unless there be something either in the subject or context repugnant to such construction, be construed and taken to mean the works by or by virtue of the contract contracted to be executed whether temporary or permanent, and whether original, altered, substituted or additional. ii. The site shall mean the land / or other places on, into or through which work is to be executed under the contract or any adjacent land, path or street through which work is to be executed under the contract or any adjacent land, path or street which may be allotted or used for the purpose of carrying out the contract. iii. The Contractor / tenderer / bidder shall mean the individual, firm or company whether incorporated or not, Joint Venture / Consortium undertaking the works and shall include the legal personal representative of such individual or the persons constituting such firm or company, or the successors of such firm or company and the permitted assignees of such individual, firm or company. iv. The Chairman means the Chairman Airports Authority of India and his Successors. v. The Engineer-in-Charge means the Engineering Officer who shall supervise and be in-charge of the work and who shall sign the contract on behalf of the Chairman, Airports Authority of India as mentioned in Schedule 'F' hereunder. vi. AAI or Airports Authority of India shall mean the Chairman Airports Authority of India. vii. The terms Member (Planning) means the head of Department of Engineering, Airports Authority of India. viii. Accepting Authority shall mean the authority mentioned in Schedule 'F'.

		<p>ix. Excepted Risk are risks due to riots (other than those on account of contractor's employees), war (whether declared or not) invasion, act of foreign enemies, hostilities, civil war, rebellion revolution, insurrection, terrorism, military or usurped power, any acts of Airports Authority of India, damages from aircraft, acts of God, such as earthquake, lightening and unprecedented floods, and other causes over which the contractor has no control and accepted as such by the Accepting Authority or causes solely due to use or occupation by Airports Authority of India of the part of the works in respect of which a certificate of completion has been issued or a cause solely due to Airports Authority of India's faulty design of works.</p> <p>x. Market Rate shall be the rate as decided by the Engineer-in-Charge on the basis of the prevailing cost of materials and labour at the site where the work is to be executed plus the percentage mentioned in Schedule 'F' to cover, all overheads and profits. Provided that no extra overheads and profits shall be payable on the parts of works assigned to other agency(s) by the contractor as per terms of contract.</p> <p>xi. Schedule(s) referred to in these conditions shall mean the relevant schedule(s) annexed to the tender papers or the standard Schedule of Rates of the government mentioned in Schedule 'F' hereunder, with the amendments thereto issued upto the date of receipt of the tender.</p> <p>xii. Department means Airports Authority of India, which invites tender on behalf of Chairman, Airports Authority of India.</p> <p>xiii. Tendered value means the value of the entire work as stipulated in the letter of award. 3</p>
3.	Scope and Performance	Where the context so requires, words imparting the singular only also include the plural and vice versa. Any reference to masculine gender shall whenever required include feminine gender and vice versa.
4.		Headings and Marginal notes to these General Conditions of Contract shall not be deemed to form part thereof or be taken into consideration in the interpretation or construction thereof or of the contract.
5.		The contractor shall be furnished, free of cost one certified copy of the contract documents except standard specifications, Schedule of Rates and such other printed and published documents, together with all drawings as may be forming part of the tender papers. None of these documents shall be used for any purpose other than that of this contract
6.	Works to be carried out	The work to be carried out under the Contract shall, except as otherwise provided in these conditions, include all labour, materials, tools, plants, equipment and transport which may be required in preparation of and for and in the full and entire execution and completion of the works. The descriptions given in the Schedule of Quantities (Schedule - A) shall, unless otherwise stated, be held to include wastage on materials, carriage and cartage, carrying and return of empties, hoisting, setting, fitting and fixing in position and all other labours necessary in and for the full and entire execution and completion of the work as aforesaid in accordance with good practice and recognized principles.

7.	Sufficiency of Tender	The Contractor shall be deemed to have satisfied himself before tendering as to the correctness and sufficiency of his tender for the works and of the rates and prices quoted in the Schedule of Quantities, which rates and prices shall, except as otherwise provided, cover all his obligations under the Contract and all matters and things necessary for the proper completion and maintenance of the works.
8.	Discrepancies and Adjustment of Errors	The several documents forming the Contract are to be taken as mutually explanatory of one another, detailed drawings being followed in preference to small scale drawing and figured dimensions in preference to scale and special conditions in preference to General Conditions
8.1		In the case of discrepancy between the Schedule of Quantities, the Specifications and / or the Drawings, the following order of preference shall be observed :-
		<ul style="list-style-type: none"> i. Description of Schedule of Quantities. ii. Particular/ technical Specification and Special Condition, if any. iii. Drawings. iv. C P W D Specifications. v. Indian Standard Specifications of B I S / IRC Code of Practice / ASTM standards. vi. Sound Engineering practice as directed by the Engineer-in-charge, whose decision in this regard shall final and binding on the contractor
8.2		If there are varying or conflicting provisions made in any one document forming part of the contract, the Accepting Authority shall be the deciding authority with regard to the intention of the document and his decision shall be final and binding on the contractor.
8.3		Any error in description, quantity or rate in Schedule of Quantities or any omission therefrom shall not vitiate the Contract or release the Contractor from the execution of the whole or any part of the works comprised therein according to drawings and specifications or from any of his obligations under the contract
8.4	Payment for similar items with different quoted rates in different subheads of the contract agreement	If the contractor has quoted different rates for the same item appearing in two or more subheads, then the lowest of the rates quoted shall only be considered for payments during execution of work. In case of deviation of quantity of such item, payments shall be made at the lowest quoted rate for quantity executed upto the deviation limit specified in the contract. Beyond the deviation limit the rate shall be derived as per relevant contract provision
9.	Reverse Auction for purchase tenders	AAI may opt for reverse auction in case of purchase tender if value of supplies is more than Rs. 10000000/- DELETED
10.	Signing of Contract	The successful tenderer / contractor, on acceptance of his tender by the Accepting Authority, shall, within 15 days from the stipulated date of start of the work, shall sign either single or Two agreements , as the case may be, one consisting BOQ for Civil works and another one for SITC and O&M / AMC / AICMC part.
i)		<ul style="list-style-type: none"> i. The notice inviting tender, all the documents including drawings, if any, forming the tender as issued at the time of

		<p>invitation of tender and acceptance thereof together with any correspondence leading thereto.</p> <p>ii. Standard AAI Form as mentioned in Schedule 'F' consisting of :</p> <ul style="list-style-type: none"> i) Various standard clauses with corrections upto the date stipulated in Schedule 'F' along with annexures thereto. ii) AAI Safety Code. iii) Model Rules for the protection of health, sanitary arrangements for workers employed by AAI or its contractors. iv) AAI Contractor's Labour Regulations. v) List of Acts and omissions for which fines can be imposed. <p>iii. No payment for the work done will be made unless contract in form of agreement is signed by the contractor.</p>
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CLAUSES OF CONTRACT

CLAUSE 1

	Performance Guarantee	This clause is applicable for the works for which the estimated cost put to tender is more than Rs.5 crores
		<p>i. The contractor shall submit an irrevocable Performance Guarantee of 5% (Five percent) of the Tendered amount in addition to other deposits mentioned elsewhere in the contract for his proper performance of the contract agreement, (not withstanding and/or without prejudice to any other provisions in the contract) within period specified in Schedule 'F' from the date of issue of award letter. This guarantee shall be in the form of Fixed Deposit Receipts or Insurance Surety Bonds or Guarantee Bonds of any Scheduled bank but not Co- operative or Gramine bank (schedule or non-schedule) in accordance with the form annexed hereto.(Appendix-XI) In case a fixed deposit receipts or Insurance Surety Bonds or Guarantee Bonds of any Bank is furnished by the contractor to the AAI as part of the performance guarantee and the Bank is unable to make payment against the said fixed deposit receipts or Insurance Surety Bonds or Guarantee Bonds, the loss caused thereby shall fall on the contractor and the contractor shall forthwith on demand furnish additional security to make good the deficit.</p>
		<p>ii. Performance guarantee should be furnished within 30 days of issue of award letter. In case the contractor fails to deposit performance guarantee within the stipulated period, no payment will be released to the contractor for the work done in respect of 1st running account bill. Moreover, interest @10% per annum on performance guarantee amount would be levied (non-refundable) for delayed period of submission.</p>
		<p>iii. The Performance Guarantee shall be initially valid upto the stipulated date of completion plus 180 days beyond that. In case the time for completion of work gets enlarged, the contractor shall get the validity of Performance Guarantee extended to cover such enlarged time for completion of work. After recording of the completion certificate for the work by the competent authority, the performance guarantee shall be returned to the contractor, without any interest. However, in case of contracts involving maintenance of buildings and services / any other work thereafter, 50% of Performance Guarantee shall be retained as Security Deposit as per contract conditions. The same shall be returned on successful completion of commitment year wise proportionately</p>
		<p>iv. The Engineer-in-Charge shall not make a claim under the performance guarantee except for amounts to which the AAI is entitled under the contract (not withstanding and/or without prejudice to any other provisions in the contract agreement) in the event of: a. Failure by the contractor to extend the validity of the Performance Guarantee as described herein above, in which event the Engineer-in- Charge may claim the full amount of the Performance Guarantee. b. Failure by the contractor to pay the Chairman, AAI any amount due, either as agreed by the contractor or determined under any of the Clauses / Conditions</p>

		of the agreement, within 30 days of the service of notice to this effect by Engineer-in-Charge.
		v. In the event of the contract being determined or rescinded under provision of any of the Clause/Condition of the agreement, the performance guarantee shall stand forfeited in full and shall be absolutely at the disposal of the Chairman, AAI.

CLAUSE 1 A

Recovery of Security Deposit	<p>The person/persons whose tender(s) may be accepted (hereinafter called the contractor) shall permit AAI at the time of making any payment to him for work done under the contract to deduct a sum at the rate of 5% of the gross amount of each running and final bill till the sum deducted along with the sum already deposited as earnest money, will amount to security deposit of 5% of the tendered value of the work. Earnest money shall be adjusted first in the security deposit and further recovery of security deposit shall commence only when the update amount of security deposit starts exceeding the earnest money. Such deductions will be made and held by way of Security Deposit unless he/they has/have deposited the amount of Security at the rate mentioned above in the form of fixed deposit receipts or Insurance Surety Bonds or guarantee bonds of any Scheduled Bank but not Co-operative or Gramin Bank (schedule or non-schedule). In case a fixed deposit receipts or Insurance Surety Bonds or Guarantee Bonds of any Bank is furnished by the contractor to the AAI as part of the security deposit and the Bank is unable to make payment against the said fixed deposit receipt or Insurance Surety Bonds or Guarantee Bond, the loss caused thereby shall fall on the contractor and the contractor shall forthwith on demand furnish additional security to the AAI to make good the deficit. In works where condition of submission of performance guarantee is not applicable, the security deposit at the rate of 10% (Ten Percent) of gross amount of each running bill shall be deducted instead of 5%, till the sum along with the sum already deposited as earnest money will amount to security deposit of 10% of the contract value of work. Other conditions shall remain same as stated above. All compensations or the other sums of money payable by the contractor under the terms of this contract may be deducted from, or paid by the sale of a sufficient part of his security deposit or from the interest arising therefrom, or from any sums which may be due to or may become due to the contractor by AAI on any account whatsoever and in the event of his Security Deposit being reduced by reason of any such deductions or sale as aforesaid, the contractor shall within 10 days make good in fixed deposit receipts or Insurance Surety Bonds or Guarantee Bonds tendered by the Scheduled Banks (but not any Co-operative or Gramin bank) (if deposited for more than 12 months) endorsed in favour of the Airports Authority of India, any sum or sums which may have been deducted from, or raised by sale of his security deposit or any part thereof. The security deposit shall be collected from the running bills of the contractor at the rates mentioned above and the Earnest money deposited at the time of tenders will be treated as part of the Security Deposit. The security deposit as deducted above can be released against bank guarantee issued by any Scheduled Bank (but not from Co- operative / Gramin Bank), on its accumulations to a minimum of Rs. 5 lakh subject to the condition that amount of such bank guarantee, except last one, shall not be less than Rs. 5 lakh.</p>
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		Note 1: Provided further that the validity of Bank Guarantee including the one given against the earnest money shall be in conformity with provisions contained in the clause 17 which shall be extended from time to time depending upon extension of contract under provision of Clause 2 & Clause 5. Note 2: Note 1 above shall be applicable for both clause 1 and 1 A
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Clause 2

	Compensation for Delay	If the contractor fails to maintain the required progress in terms of clause 5 or to complete the Work and clear the site on or before the contract or justified extended date of completion as per clause 5(excluding any extension under clause 5.5) as well as any extension granted under clause 12 and 15, he shall, without prejudice to any other right or remedy available under the law to the AAI on account of such breach, pay as compensation the amount calculated at the rates stipulated below as the authority specified in schedule 'F' may decide on the amount of Tendered Value of the work for every completed day/month (as determined) that the progress remains below that specified in Clause 5 or that the work remains incomplete. This will also apply to items or group of items for which a separate period of completion has been specified.	
		i) Compensation for delay of work	<p>If the completion of work is delayed due to reasons attributed to contractor, AAI shall be entitled for compensation for delay as detailed below:</p> <p>i. For works costing upto Rs. 20.00 Lac: 1.0% (one percent) of tendered value per week of delay or lesser amount as decided by the competent authority subject to a maximum of 10% of contract value.</p> <p>ii For the works costing more than Rs 20 Lac</p> <p>a. For the works having completion period less than 2 years 0.5% (half percent) of tendered value per week of delay or lesser amount as decided by the competent authority subject to a maximum of 10% of the tendered value.</p> <p>b. For the works having completion period more than 2 years 0.5% of tendered value per fortnight of delay or lesser amount as decided by the competent authority subject to a maximum of 10% of the tendered value.</p>
		Provided always that the total amount of compensation for delay to be paid under this condition shall not exceed 10% of the Tendered Value of work or of the Tendered Value of the Sectional part of work as mentioned in schedule 'F' for which a separate period of completion is originally given. In case no compensation has been decided by the authority in Schedule 'F' during the progress of work, this shall be no	

		<p>waiver of right to levy compensation by the said authority if the work remains incomplete on final justified extended date of completion. If the Engineer in Charge decides to give further extension of time allowing performance of work beyond the justified extended date, the contractor shall be liable to pay compensation for such extended period. If any variation in amount of contract takes place during such extended period beyond justified extended date and the contractor becomes entitled to additional time under clause 12, the net period for such variation shall be accounted for while deciding the period for levy of compensation. However, during such further extended period beyond the justified extended period, if any delay occurs by events under sub clause 5.2, the contractor shall be liable to pay compensation for such delay.</p> <p>Provided that compensation during the progress of work beyond the justified extended date of completion for delay under this clause shall be for non- achievement of sectional completion or part handing over of work on stipulated / justified extended date for such part work or if delay affects any other works / services. This is without prejudice to right of action by Engineer-in- Charge under clause 3 for delay in performance and claim of compensation under that clause. In case action under clause 2 has not been finalized and the work has been determined under clause 3, the right of action under this clause shall remain post determination of contract but levy of compensation shall be for days the progress is behind the schedule on date of determination, as assessed by the authority in schedule 'F', after due consideration of justified extension. The compensation for delay, if not decided before the determination of contract, shall be decided after of determination of contract. The amount of compensation may be adjusted or set-off against any sum payable to the' Contractor under this or any other contract with AAI. In case, the contractor does not achieve a particular milestone mentioned in schedule F, or the re-scheduled milestone(s) in terms of Clause 5.4, the amount shown against that milestone shall be withheld, to be adjusted against the compensation levied as above. With-holding of this amount on failure to achieve a milestone, shall be automatic without any notice to the contractor. However, if the contractor catches up with the progress of work on the subsequent milestone(s), the withheld amount shall be released. In case the contractor fails to make up for the delay in subsequent milestone(s), amount mentioned against each milestone missed subsequently also shall be withheld. However, no interest, whatsoever, shall be payable on such withheld amount.</p>
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Clause 2A

	<p>DELETED</p>	<p>In case, the contractor completes the work ahead of stipulated date of completion, a bonus @ 1 % (one per cent) of the tendered value per month computed on pro-rata basis, shall be payable to the contractor, subject to a maximum of one month (one per cent) of the tendered value. The amount, if payable, shall be paid along with the final bill of work. Provided always that the contractor shall be provided in the schedule of work. Clause 2A shall be applicable only when the contractor has completed the work ahead of stipulated date of completion. This clause shall be applicable for the work where the estimated cost put to tender is Rs. 50.00 Cr. and above for pavement work and Rs.100.00 Cr. and above for building work</p>
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Clause 2B

<p>Release of withheld amount against compensation for delay.</p>	<p>Withheld amount towards compensation for delay over and above Rs. 50.00 lacs, can be released against Bank Guarantee (on the format given at Appendix-1) or in the form of fixed deposit receipts or guarantee bonds of any Scheduled Bank but not Co-operative or Gramin Bank (schedule or non-schedule), pending finalization of case of extension of time by competent authority as per delegation of powers. Concerned Executive Director (Engg) will authorize such action on receipt of proposal from the Engineer-In-Charge through proper channel</p>
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Clause 3

<p>When Contract can be Determined</p>	<p>Subject to other provisions contained in this clause, the Engineer-in-Charge may, without prejudice to his any other rights or remedy against the contractor in respect of any delay, inferior workmanship, any claims for damages and / or any other provisions of this contract or otherwise, and whether the date of completion has or has not elapsed, by notice in writing absolutely determine the contract in any of the following cases:</p> <ul style="list-style-type: none"> i. If the contractor having been given a notice by the Engineer-in-Charge in writing to rectify, reconstruct or replace any defective work or that the work is being performed in an inefficient or otherwise improper or un-workman like manner shall omit to comply with the requirement of such notice for a period of seven days thereafter. iii. If the contractor has, without reasonable cause, suspended the progress of the work or has failed to proceed with the work with due diligence and continues to do so after a notice in writing of seven days from the Engineer- in-Charge. iv. If the contractor fails to complete the work or section of work with individual date of completion on or before the stipulated or justified extended date on or before such date of completion, and the Engineer in Charge without any prejudice to any other right or remedy under any other provision in the contract has given further reasonable time in a notice given in writing in that behalf as either mutually agreed or in absence of such mutual agreement by his own assessment making such time essence of contract and in the opinion of Engineer in Charge, the contractor will be unable to complete the same or does not complete the same within the period specified. v. If the contractor persistently neglects to carry out his obligations under the contract and / or commits default in complying with any of the terms and conditions of the contract and does not remedy it or take effective steps to remedy it within 7 days after a notice in writing is given to him in that behalf by the Engineer-in-Charge. vi. If the contractor shall offer or give or agree to give to any person in AAI service or to any other person on his behalf any gift or consideration of any kind as an inducement or reward for doing or forbearing to do or for having done or forborne to do any act in relation to the obtaining or execution of this or any other contract for AAI.
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		<p>vii. If the contractor shall enter into a contract with Airports Authority of India in connection with which commission has been paid or agreed to be paid by him or to his knowledge, unless the particulars of any such commission and the terms of payment thereof have been previously disclosed in writing to the Engineer-in-charge.</p> <p>viii. If the contractor shall obtain a contract with AAI as a result of wrong tendering or other non-bonafide methods of competitive tendering or commits any breach of Integrity Pact.</p> <p>ix. If the contractor being an individual, or if a firm, any partner thereof shall at any time be adjudged insolvent or have a receiving order or order for administration of his estate made against him or shall take any proceedings for liquidation or composition (other than a voluntary liquidation for the purpose of amalgamation or reconstruction) under any Insolvency Act for the time being in force or make any conveyance or assignment of his effects or composition or arrangement for the benefit of his creditors or purport so to do, or if any application be made under any Insolvency Act for the time being in force for the sequestration of his estate or if a trust deed be executed by him for benefit of his creditors.</p> <p>x. If the contractor being a company shall pass a resolution or the court shall make an order that the company shall be wound up or if a receiver or a manager on behalf of a creditor shall be appointed or if circumstances shall arise which entitle the court or the creditor to appoint a receiver or a manager or which entitle the court to make a winding up order.</p> <p>xi. If the contractor shall suffer an execution being levied on his goods and allow it to be continued for a period of 21 days.</p> <p>xii. If the contractor assigns (excluding part(s) of work assigned to other agency(s) by the contractor as per terms of contract), transfers, sublets (engagement of labour on a piece-work basis or of labour with materials not to be incorporated in the work, shall not be deemed to be subletting) or otherwise parts with or attempts to assign, transfer, sublet or otherwise parts with the entire works or any portion thereof without the prior written approval of the Engineer-in-Charge. When the contractor has made himself liable for action under any of the cases aforesaid, the Engineer-in-Charge on behalf of the Chairman, AAI shall have powers :</p> <p>a) To determine the contract as aforesaid so far as performance of work by the Contractor of work is concerned (of which determination notice in writing to the contractor under the hand of the Engineer-in-Charge shall be conclusive evidence). Upon such determination, the Earnest Money Deposit, Security Deposit already recovered and Performance Guarantee under the contract shall be liable to be forfeited and shall be absolutely at the disposal of the AAI.</p> <p>b) After giving notice to the contractor to measure up the work of the contractor and to take such whole, or the balance or part thereof, as shall be un-executed out of his hands and to give it to another contractor or any other means to complete the work. The contractor, whose contract is</p>
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		determined as above, shall not be allowed to participate in the tendering process for the balance work. In the event of above courses being adopted by the Engineer-in-Charge, the contractor shall have no claim to compensation for any loss sustained by him by reasons of his having purchased or procured any materials or entered into any engagements or made any advances on account or with a view to the execution of the work or the performance of the contract. And in case action is taken under any of the provision aforesaid, the contractor shall not be entitled to recover or be paid any sum for any work thereof or actually performed under this contract unless and until the Engineer-in-Charge has certified in writing the performance of such work and the value payable in respect thereof and he shall only be entitled to be paid the value so certified
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CLAUSE 3 A

		In case, the work cannot be started due to reasons not within the control of the contractor within 1/8th of the stipulated time for completion of work or one month whichever is higher, either party may close the contract by giving notice to the other party stating the reasons. In such eventuality, the Earnest Money Deposit and the Performance Guarantee of the contractor shall be refunded within 30 days. Neither party shall claim any compensation for such eventuality. This clause is not applicable for any breach of the contract by either party
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CLAUSE 3 B

	Debarment of Contractor	<ul style="list-style-type: none"> i) Contractor may be debarred if it is determined under breached the Integrity Pact of clause 41(a) and Code of Integrity of clause 41(b). ii) Contractor can also be debarred for the reasons like supply of sub-standard material, non-supply of material, abandonment of work, sub-standard quality of work, poor/ unsatisfactory performance. iii) The period of debarment shall be upto two years.
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CLAUSE 4

	Contractor liable to pay compensation even if action not taken under Clause-3	In any case in which any of the powers conferred upon the Engineer-in-Charge by Clause-3 thereof, shall have become exercisable and the same are not exercised, the non-exercise thereof shall not constitute a waiver of any of the conditions hereof and such powers shall notwithstanding be exercisable in the event of any future case of default by the contractor and the liability of the contractor for compensation shall remain unaffected. In the event of the Engineer-in-Charge putting in force all or any of the powers vested in him under the preceding clause he may, if he so desires after giving a notice in writing to the contractor, take possession of (or at the sole discretion of the Engineer-in-Charge which shall be final and binding on the contractor) use as on hire (the amount of the hire money being also in the final determination of the Engineer-in-Charge) all or any tools, plant, materials and stores, in or upon the works, or the site thereof belonging to the contractor, or procured by the contractor and intended to be used for the execution of the work/ or any part thereof,
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		<p>paying or allowing for the same in account at the contract rates, or, in the case of these not being applicable, at current market rates to be certified by the Engineer-in-Charge, whose certificate thereof shall be final, and binding on the contractor, clerk of the works, foreman or other authorized agent to remove such tools, plant, materials, or stores from the premises (within a time to be specified in such notice) in the event of the contractor failing to comply with any such requisition, the Engineer- in-Charge may remove them at the contractor's expense or sell them by auction or private sale on account of the contractor and his risk in all respects and the certificate of the Engineer-in-Charge as to the expenses of any such removal and the amount of the proceeds and expenses of any such sale shall be final and conclusive against the contractor</p>
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CLAUSE 5

	Time and Extension for Delay	<p>The time allowed for execution of the Works as specified in the Schedule 'F' or the extended time in accordance with these conditions shall be the essence of the Contract. The execution of the works shall commence from such time period as mentioned in schedule 'F' or from the date of handing over of the site whichever is later. If the Contractor commits default in commencing the execution of the work as aforesaid, AAI shall without prejudice to any other right or remedy available in law, be at liberty to forfeit the earnest money & performance guarantee absolutely</p>
5.1		<p>After the Contract is awarded, within 15 days, the Contractor shall submit a Time and Progress Chart for each mile stone and get it approved by the Engineer-in-charge. The Chart shall be prepared in direct relation to the time stated in the Contract documents for completion of items of the works. It shall indicate the forecast of the dates of commencement and completion of various trades of sections of the work and may be amended as necessary by agreement between the Engineer-in-Charge and the Contractor within the limitations of time imposed in the contract documents, and further to ensure good progress during the execution of the work, the contractor shall in all cases in which the time allowed for any work, exceeds one month (save for special jobs for which a separate programme has been agreed upon) complete the work as per mile stones given in Schedule 'F'.</p> <p>Project Management shall be done.</p> <ol style="list-style-type: none"> a. For works costing upto Rs. 5.00 Cr. -- CPM/ PERT Chart b. Works costing more than Rs. 5.00 Cr. -- By using Project Management Software like Primavera / MS Project or any other software with the approval of Engineer-in-charge. c. Contractor shall submit monthly progress reports (2 copies) highlighting status of various activities and physical completion of work <p>PROGRAMME CHART</p> <ol style="list-style-type: none"> i. The Contractor shall prepare an integrated programme chart in Project Management Software for the execution of work, showing clearly all activities from the start of work to

		<p>completion, with details of manpower, equipment and machinery required for the fulfillment of the programme within the stipulated period or earlier and submit the same for approval to the Engineer-in- Charge within fifteen days of award of the contract. A recovery of Rs. 2500/- (for works costing upto Rs. 5.00 Crores) / Rs. 5000/- (for works costing more than Rs. 5.00 Crores) shall be made on per day basis in case of delay in submission of the above programme.</p> <p>ii. The programme chart should include the following:</p> <p>a) Descriptive note explaining sequence of the various activities.</p> <p>b) Network (PERT / CPM / BAR CHART).</p> <p>c) Programme for procurement of materials by the contractor.</p> <p>Programme for deployment of machinery / equipment's having adequate capacity, commensurate with the quantum of work to be done within the stipulated period, by the contractor. In addition to above, to achieve the progress of work as per programme, the contractor must bring at site adequate shuttering material required for cement concrete and R.C.C. works etc. for three floors within one month from the date of start of work till the completion of RCC work as per requirement of work. The contractor shall submit shuttering schedule adequate to complete structure work within laid down physical milestone.</p> <p>iii. If at any time, it appears to the Engineer-in-Charge that the actual progress of work does not conform to the approved programme referred above or after rescheduling of milestones, the contractor shall produce a revised programme within 7 (seven) days, showing the modifications to the approved programme to ensure timely completion of the work. The modified schedule of programme shall be approved by the Engineer in Charge. A recovery of Rs. 2500/- (for works costing upto Rs.5.00 Crores) / Rs. 5000/- (for works costing more than Rs.5.00 Crores) shall be made on per day basis in case of delay in submission of the modified programme.</p> <p>iv. The submission for approval by the Engineer-in-Charge of such programme or such particulars shall not relieve the contractor of any of the duties or responsibilities under the contract. This is without prejudice to the right of Engineer-in-Charge to take action against the contractor as per terms and conditions of the agreement.</p> <p>v. The contractor shall submit the progress report using MS Project / Primavera software with base line programme referred above for the work done during previous month to the Engineer-in-charge on or before 5th day of each month failing which a recovery Rs. 2500/ - (for works costing upto Rs.5.00 Crores) / Rs. 5000/- (for works costing more than Rs.5.00 Crores) shall be made on per day basis in case of delay in submission of the monthly progress report.</p>
5.2		<p>If the work(s) be delayed by:-</p> <p>i. Force majeure, or an act of terrorism</p> <p>ii. Abnormally bad weather, or</p> <p>iii. Serious loss or damage by fire, or</p>

		<p>iv. Civil commotion, local commotion of workmen, strike or lockout, affecting any of the trades employed on the work, or</p> <p>v. Delay on the part of other contractors or tradesmen engaged by Engineer- in- Charge for executing work not forming part of the Contract, or</p> <p>vi. Non-availability of stores, which are the responsibility of AAI to supply or</p> <p>vii. Non-availability or break down of tools and Plant to be supplied or supplied by AAI or</p> <p>viii. Any other cause which, in the absolute discretion of the Engineer-in-Charge is beyond the Contractor's control. then upon the happening of any such event causing delay, the contractor shall immediately give notice thereof in writing to the Engineer-in-Charge but shall nevertheless use constantly his best endeavors to prevent or make good the delay and shall do all that may be reasonably required to the satisfaction of the Engineer-in-charge to proceed with the works. All correspondence with the agency and concerned stakeholders during execution of works will be taken into consideration for evaluation of hindrances causing delay, for grant of extension of time by the Competent Authority</p>
5.3		Request for rescheduling of Milestones and extension of time, to be eligible for consideration, shall be made by the contractor in writing within fourteen days of the happening of the event causing delay on the prescribed form to the authority indicated in schedule 'F'. The contractor may also, if practicable, indicate in such a request the period for which extension is desired.
5.4		In any such case the Engineer-in-Charge with the approval of authority indicated in Schedule 'F' may give a fair and reasonable extension of time and reschedule the Milestones for completion of work. Such extension or re- scheduling of the milestone shall be communicated to the contractor by the Engineer-in-charge in writing, within 1 month or 4 weeks of the date of receipt of such request respectively. Non-application by the contractor for extension of time / rescheduling of milestones shall not be a bar for giving a fair and reasonable extension / re-scheduling of milestones by the Engineer-in-charge with the approval of authority indicated in schedule 'F' and this shall be binding on the contractor

CLAUSE 6

	Measurements of Work Done	<p>Engineer-in-charge shall, except as otherwise provided, ascertain and determine by measurement, the value in accordance with the contract of work done.</p> <p>All measurement of all items having financial value shall be entered in Measurement Book and/or level field book so that a complete record is obtained of all works performed under the contract.</p> <p>All measurements and levels shall be taken jointly by the Engineer-in-Charge or his authorised representative and by the contractor or his authorised representative from time to time during the progress of the work and such measurements shall be signed and dated by the Engineer-in-Charge and the contractor or their representatives in token of their acceptance. If the contractor objects to any of the measurements recorded, a note shall be made to that effect with</p>
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	<p>reason and signed by both the parties.</p> <p>If for any reason the contractor or his authorised representative is not available and the work of recording measurements is suspended by the Engineer-in- Charge or his representative, the Engineer-in-Charge and the Department shall not entertain any claim from contractor for any loss or damages on this account. If the contractor or his authorized representative does not remain present at the time of such measurements after the contractor or his authorized representative has been given a notice in writing three (3) days in advance or fails to countersign or to record objection within a week from the date of the measurement, then such measurements recorded in his absence by the Engineer- in- Charge or his representative shall be deemed to be accepted by the Contractor.</p> <p>The contractor shall, without extra charge, provide all assistance with every appliance, labour and other things necessary for measurements and recording levels.</p> <p>Except where any general or detailed description of the work expressly shows to the contrary, measurements shall be taken in accordance with the procedure set forth in the specifications notwithstanding any provision in the relevant Standard Method of measurement or any general or local custom. In the case of items which are not covered by specifications, measurements shall be taken in accordance with the relevant standard method of measurement issued by the Bureau of Indian Standards and if for any item no such standard is available, then a mutually agreed method shall be followed.</p> <p>The contractor shall give, not less than seven days' notice to the Engineer-in- Charge or his authorised Representative of the work, before covering up or otherwise placing beyond the reach of measurement any work in order that the same may be measured and correct dimensions thereof be taken before the same is covered up or placed beyond the reach of measurement and shall not cover up and place beyond reach of measurement any work without consent in writing of the Engineer-in-Charge or his authorised representative of the work who shall within the aforesaid period of seven days inspect the work, and if any work shall be covered up or placed beyond the reach of measurements without such notice having been given or the Engineer-in- Charge's consent being obtained in writing, the same shall be uncovered at the Contractor's expense, or in default thereof no payment or allowance shall be made for such work or the materials with which the same was executed.</p> <p>Engineer-in-Charge or his authorised representative may cause either themselves or through another officer of the department to check the measurements recorded jointly or otherwise as aforesaid and all provisions stipulated herein above shall be applicable to such checking of measurements or levels.</p> <p>It is also a term of this contract that recording of measurements of any item of work in the measurement book and/or its payment in the interim, on account or final bill shall not be considered as conclusive evidence as to the sufficiency of any work or material to which it relates nor shall it relieve the contractor from liabilities from any over measurement or defects noticed till completion of the defects liability period</p>
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Clause 6 A

	<p>Computerised Measurement Book</p>	<p>Computerized measurement is mandatory for works costing more than Rs 5.00 Lacs. However in case of works costing lesser than Rs. 5.00 Lacs Engineer-in- Charge may decide for adopting computerized measurement if required, except as otherwise provided, ascertain and determine by measurement the value of work done in accordance with the contract. All measurements of all items having financial value shall be entered by the contractor and compiled in the shape of the Computerized Measurement Book having pages of A-4 size as per the format of the department so that a complete record is obtained of all the items of works performed under the contract</p>
		<p>All such measurements and levels recorded by the contractor or his authorised representative from time to time, during the progress of the work, shall be got checked by the contractor from the Engineer-in-Charge or his authorised representative as per interval or program fixed in consultation with Engineer-in- Charge or his authorised representative. After the necessary corrections made by the Engineer-in- Charge, the measurement sheets shall be returned to the contractor for incorporating the corrections and for resubmission to the Engineer-in-Charge for the dated signatures by the Engineer-in-Charge and the contractor or their representatives in token of their acceptance. Whenever bill is due for payment, the contractor would initially submit draft computerized measurement sheets and these measurements would be got checked/test checked from the Engineer-in-Charge and/or his authorized representative. The contractor will, thereafter, incorporate such changes as may be done during these checks/test checks in his draft computerized measurements, and submit to the department a computerized measurement book, duly bound, and with its pages machine numbered. The Engineer-in-Charge and/or his authorised representative would thereafter check this MB, and record the necessary certificates for their checks / test checks. The final, fair, computerized measurement book given by the contractor, duly bound, with its pages machine numbered, should be 100% correct, and no cutting or overwriting in the measurements would thereafter be allowed. If at all any error is noticed, the contractor shall have to submit a fresh computerized MB with its pages duly machine numbered and bound, after getting the earlier MB cancelled by the department. Thereafter, the MB shall be taken in the records of Engineer-in-charge, and allotted a number as per the Register of Computerized MBs. This should be done before the corresponding bill is submitted to the Engineer-in-charge for payment. The contractor shall submit two spare copies of such computerized MB's for the purpose of reference and record by the various officers of the department. The contractor shall also submit to the department separately his computerized Abstract of Cost and the bill based on these measurements, duly bound, and its pages machine numbered along with two spare copies of the "bill. Thereafter, this bill will be processed by the Engineer-in-charge and allotted a number as per the computerized record in the same way as done for the measurement book meant for measurements. The contractor shall, without extra charge, provide all assistance with every appliance,</p>

		<p>labour and other things necessary for checking of measurements / levels by the Engineer-in-charge or his representative. Except where any general or detailed description of the work expressly shows to the contrary, measurements shall be taken in accordance with the procedure set forth in the specifications notwithstanding any provision in the relevant Standard Method of measurement or any general of local custom. In the case of item which are not covered by specifications, measurements shall be taken in accordance with the relevant standard method of measurement issued by the Bureau of Indian Standards and if for any item no such standard is available then a mutually agreed method shall be followed. The contractor shall give not less than seven days' notice to the Engineer-in- Charge or his authorized representative of the work before covering up or otherwise placing beyond the reach of checking and / or test checking the measurement of any work in order that the same be checked and / or test checked and correct dimensions thereof be taken before the same is covered up or placed beyond the reach of checking and / or test checking measurement and shall not cover up and place beyond reach of measurement any work without consent in writing of the Engineer-in-charge or his authorized representative of the work who shall within the aforesaid period of seven days inspect the work, and if any work shall be covered up or placed beyond the reach of checking and / or test checking measurements without such notice having been given or the Engineer-in charge's consent being obtained in writing the same shall be uncovered at the contractor's expense, or in default thereof no payment or allowance shall be made for such work or the materials with which the same was executed.</p>
		<p>Engineer-in-charge or his authorised representative may cause either themselves or through another officer of the department to check the measurements recorded by contractor and all provisions stipulated herein above shall be applicable to such checking of measurements or levels. It is also a term of this contract that checking and/or test checking the measurements of any item of work in the measurement book and/or its payment in the interim, on account of final bill shall not be considered as conclusive evidence as to the sufficiency of any work or material to which it relates nor shall it relieve the contractor from liabilities from any over measurement or defects noticed till completion of the defects liability period</p>

CLAUSE 7

	<p>Payment on Intermediate Certificate to be regarded as Advances</p>	<p>No payment shall be made for work, estimated to cost Rs. One lac or less till after the whole of the work shall have been completed and certificate of completion given. For works estimated to cost over Rs. One lac, the interim or running account bills shall be submitted by the contractor for the work executed on the basis of such recorded measurements on the format of the Department in triplicate on or before the date of every month fixed for the same by the Engineer-in-Charge. The contractor shall not be entitled to be paid any such interim payment if the gross work done together with net payment/ adjustment of advances for material collected, if any, since the last</p>
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		<p>such payment is less than the amount specified in Schedule 'F', in which case the interim bill shall be prepared on the appointed date of the month after the requisite progress is achieved. Engineer-in-Charge shall arrange to have the bill verified by taking or causing to be taken, where necessary, the requisite measurements of the work. In the event of the failure of the contractor to submit the bills, Engineer-in-Charge shall prepare or cause to be prepared such bills in which event no claims whatsoever due to delays on payment including that of interest shall be payable to the contractor. Payment on account of amount admissible shall be made by the Engineer-in-Charge certifying the sum to which the contractor is considered entitled by way of interim payment at such rates as decided by the Engineer-in-Charge. The amount admissible shall be paid by 10th working day after the day of presentation of the bill by the Contractor to the Engineer-in-Charge or his Asstt. Manager / Manager (Engg.) together with the account of the material issued by the department, or dismantled materials, if any. In the case of works outside the headquarters of the Engineer-in-Charge, the period of ten working days will be extended to fifteen working days. All such interim payments shall be regarded as payment by way of advances against final payment only and shall not preclude the requiring of bad, unsound and imperfect or unskilled work to be rejected, removed, taken away and reconstructed or re-erected. Any certificate given by the Engineer-in-charge relating to the work done or materials delivered forming part of such payment, may be modified or corrected by any subsequent such certificate(s) or by the final certificate and shall not by itself be conclusive evidence that any work or materials to which it relates is are in accordance with the contract and specifications. Any such interim payment, or any part thereof shall not in any respect conclude, determine or affect in any way powers of the Engineer-in-charge under the contract or any of such payments be treated as final settlement and adjustment of accounts or in any way vary or affect the contract. Pending consideration or extension of date of completion, interim payments shall continue to be made as herein provided without prejudice to the right of the department to take action under the terms of this contract for delay in the completion of work, if the extension of date of completion is not granted by the competent authority. The Engineer-in-Charge in his sole discretion on the basis of a certificate from the Asstt Manager / Manager (Engg) to the effect that the work has been completed up to the level in question make interim advance payments without detailed measurements for work done (other than foundations, items to be covered under finishing items) up to lintel level (including sunshade etc.) and slab level, for each floor working out at 75% of the assessed value. The advance payments so allowed shall be adjusted in the subsequent interim bill by taking detailed measurements thereof.</p>
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CLAUSE 8

	<p>Completion Certificate and Completion Plans</p>	<p>Within ten days of the completion of the work, the contractor shall give notice of such completion to the Engineer-in-Charge and within thirty days of the receipt of such notice, the Engineer-in-Charge shall inspect the work and if there is no defect in the work, shall furnish the</p>
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		<p>contractor with a final certificate of completion, otherwise a provisional certificate of physical completion indicating defects (a) to be rectified by the contractor and/or (b) for which payment will be made at reduced rates, shall be issued. But no final certificate of completion shall be issued, nor shall the work be considered to be complete for 'Civil Construction Works' until the contractor shall have removed from the premises on which the work shall be executed all scaffolding, surplus materials, rubbish and all huts and sanitary arrangements required for his/their work people on the site in connection with the execution of the works as shall have been erected or constructed by the contractor(s) and cleaned off the dirt from all wood work, doors, windows, walls, floor or other parts of the building, in, upon, or about which the work is to be executed or of which he may have had possession for the purpose of the execution; thereof, and not until the work shall have been measured by the Engineer-in-charge. If the contractor shall fail to comply with the requirements of this Clause as to removal of scaffolding, surplus materials and rubbish and all huts and sanitary arrangement as aforesaid and cleaning off dirt on or before the date fixed for the completion of work, the Engineer-in-charge may at the expense of the contractor remove such scaffolding, surplus materials and rubbish etc., and dispose of the same as he thinks fit and clean off such dirt as aforesaid, and the contractor shall have no claim in respect of scaffolding or surplus materials as aforesaid except for any sum actually realized by the sale thereof.</p> <p>a. For electrical and mechanical capital works: The contractor shall remove the rubbish from the site. Following conditions must be met before recording completion certificate : Submits completion plan, maintenance manual, manufactures catalogue and gives performance test for system.</p> <p>b. For repair works: The performance of the repaired system has been tested and found satisfactory.</p> <p>c. For AMC work: The system has been tested for its performance / completeness and taken over by AAI / next agency for operation and maintenance</p>
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CLAUSE 8 A

	<p>Contractor to keep site clean</p>	<p>When the annual repairs and maintenance of works are carried out, the splashes and droppings from white washing colour washing, painting etc., on walls, floor, windows etc. shall be removed and the surface cleaned simultaneously with the completion of these items of work in the individual rooms, quarters or premises etc. Where the work is done without waiting for the actual completion of all the other items of work in the contract, in case the contractor fails to comply with the requirements of this clause, the Engineer-in-charge shall have the right to get this work done at the cost of the contractor either departmentally or through any other agency. Before taking such action, the Engineer-in-charge shall give ten days notice in writing to the contractor.</p>
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CLAUSE 8 B

	Completion Plans to be Submitted by the Contractor	The contractor shall submit completion plan as required vide General Specifications for Electrical works (Part-I internal) 2013 and (Part-II External) 1994 or latest available specifications, as applicable within thirty days of the completion of the work. The contractor shall submit completion plan for building works, all services, and obtain occupancy certificate from local bodies on the basis of completion drawings within a period of 30 days from the date of completion. The contractor shall also submit catalogues of all equipment's and maintenance manual for the complete E & M systems. If contractor fails to submit completion plans of all works, he shall be liable to pay compensation @ 0.5% of the tendered value of works costing up to Rs. 5 Crores subject to maximum of Rs. 1.00 Lac and 0.25% for works costing more than Rs. 5 crores subject to maximum of Rs. 1.5.Lac. The decision of Project-in-charge in this regard shall be final and binding on the contractor
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CLAUSE 9

	Payment of final bill	<p>The corrected final bill shall be submitted by the contractor in the same manner as specified in interim bills within three months of physical completion of the work or within one month of the date of the final certificate of completion furnished by the Engineer-in-charge whichever is earlier. No further claims shall be made by the contractor after submission of the final bill and these shall be deemed to have been waived and extinguished. Payments of those items of the bill in respect of which there is no dispute and of items in dispute, for quantities and rates as approved by Engineer-in-charge, will, as far as possible be made within the period specified herein under, the period being reckoned from the date of receipt of the bill by the Engineer-in-charge or his authorised Asstt. Manager / Manager (Engg.), complete with account of materials issued by the Department and dismantled materials.</p> <table border="0"> <thead> <tr> <th style="text-align: left;">Sl</th> <th style="text-align: left;">Value of work</th> <th style="text-align: left;">Time limit</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>If the Tendered value of work is up to Rs. 50 lac</td> <td>2 months</td> </tr> <tr> <td>2</td> <td>If the Tendered value of work is more than Rs.50 lac and up to Rs. 2.5 Crore:</td> <td>3 months</td> </tr> <tr> <td>3</td> <td>If the Tendered value of work exceeds Rs. 2.5 Crore:</td> <td>6 months</td> </tr> </tbody> </table> <p>In case of delay in payment of final bills after prescribed time limit, a simple interest @ 5% per annum shall be paid to the contractor from the date of expiry of prescribed time limit which will be compounded on yearly basis, provided the final bill submitted by the contractor found to be in order. The Final bill shall be prepared for both L1 & L2 bidders for all tendered items (excluding Extra Items based on market rate) and payment shall be made on the basis of lower of the two.</p>	Sl	Value of work	Time limit	1	If the Tendered value of work is up to Rs. 50 lac	2 months	2	If the Tendered value of work is more than Rs.50 lac and up to Rs. 2.5 Crore:	3 months	3	If the Tendered value of work exceeds Rs. 2.5 Crore:	6 months
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CLAUSE 9 A

<p>Payment of contractor's bills to Banks</p>	<p>Payments due to the contractor and refund of various nature may, if so desired by him and wherever possible in banks be made through electronic payment mechanism instead of direct to him, provided that the contractor furnishes to the Engineer-in- Charge.</p> <p>i. Informations as per proforma attached.</p> <p>ii. An authorization in the form of a legally valid document such as power of attorney conferring authority on the bank to receive payments and</p> <p>iii. His own acceptance of the correctness of the amount made out as being due to him by Authority or his signature on the bill or other claim preferred against Authority before settlement by the Engineer-in-charge of the account or claim by payment to the bank. While the receipt given by such banks shall constitute a full and sufficient discharge for the payment, the contractor shall whenever possible present his bills duly receipted and discharged through his bank.</p> <p>Nothing herein contained shall operate to create in favour of the bank any rights or equities vis-à-vis the Airports Authority of India</p>
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CLAUSE 10

<p>Materials supplied by Authority</p>	<p>Materials which Authority will supply are shown in Schedule 'B' which also stipulates quantum, place of issue and rate(s) to be paid in respect thereof. The contractor shall be bound to procure them from the Engineer-in-charge. As soon as the work is completed, the contractor shall finalise the programme for the completion of work as per clause 5 of this contract and shall give his estimates of materials required on the basis of drawings/ or schedule of quantities of the work. The contractor shall give in writing a programme to the Engineer-in-charge, which shall be issued to him for review the progress of work as assessed by the Engineer-in-Charge in accordance with the agreed phase programme of work indicating monthly requirements of various materials. The contractor shall place his indent in writing for issue of such materials at least 7 days in advance of his requirements and materials shall be supplied for the purpose of the contract on the basis of the value of the materials so supplied at the rates specified in the said schedule shall be set off or deducted, as and when materials are consumed in items of work (including normal wastage) for which payment is being made to the contractor, from the amount then due or which may therefore become due to the contractor under the contract or otherwise or from the security deposit. At the time of submission of bills, the contractor shall certify that the materials supplied is available at site in original good condition. The contractor shall submit along with every running bill (on account of interim bill) material-wise reconciliation statement supported by complete calculations reconciling total issue, to date, consumption and certified balance (diameter / section-wise in case of steel) and resulting variations and reasons thereof. The Engineer-in-charge shall (whose decision shall be final and binding on the contractor) be within his rights to follow the procedure of recovery as per clause 42 at any stage of the work if reconciliation is not found to be satisfactory. The contractor shall bear the cost of getting</p>
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the material issued, loading, transporting to site, unloading, storing under cover as required, cutting assembling and joining several parts together as necessary. Notwithstanding anything contained in any other clause of the contract and as so supplied to the contractor or procured with the assistance of AAI shall remain the absolute property of the contractor shall be the trustee of the stores/ materials. The stores/ materials shall not be removed/ disposed of by the contractor on any account and shall be at the disposal of the Engineer-in-charge or his authorized representative. Any such stores / materials remaining unused shall be returned to the Engineer-in-charge in as good a condition in which they were originally supplied at a place directed by him, at a place of his own choice or other place specified by him as he shall require, but in case the contractor fails to take back the stores / materials the contractor shall have no claim for compensation on any account for the stores / materials so supplied to him as aforesaid and not used by him or for any wastage in or damage to in such stores / materials. The contractor shall be required to return the stores / materials, the contractor shall be required to return the stores/ materials on being paid or credited. The Engineer-in-charge shall determine, having due regard to the condition of the stores / materials. The price allowed for credit to the contractor, however, shall be at the prevailing market rate not exceeding the amount charged to him, excluding the storage charge, if any. The decision of the Engineer-in-charge shall be final and conclusive. In the event of breach of the aforesaid condition the contractor shall in addition to throwing him to account for contravention of the terms of the licenses or for criminal breach of trust, be liable to the Authority for all actual profits resulting or which in the usual course would have resulted to him by reason of such breach. Provided that the contractor shall in no case be entitled to any compensation or damages on account of any delay in supply or non-supply thereof all or part of the materials and stores provided further that the contractor shall be bound to complete the entire work if the materials are supplied by the Engineer-in-charge within the original scheduled time for completion of the work provided that the time of completion of work exceeds 12 months, but if a part of the materials only has been supplied within the aforesaid period, the contractor shall be bound to do so much of the work as may be possible with the materials and stores supplied in the aforesaid period. For the completion of the rest of the work, the contractor shall be entitled to such extension of time as may be determined by the Engineer-in-charge whose decision in this regard shall be final and binding on the contractor. The contractor shall see that only the required quantities of materials are got issued. Any such material remaining unused and in perfectly good / original condition at the time of completion or determination of the contract shall be returned to the Engineer-in-charge at the stores from which it was issued or at a place directed by him by a notice in writing. The contractor shall not be entitled for loading transporting, unloading and stacking of such unused material except for the extra lead, if any involved, beyond the original place of issue

CLAUSE 10 A

<p>Materials to be provided by the contractor and Mandatory Tests</p>	<ol style="list-style-type: none">1. The contractor shall, at his own expense, provide all materials, required for the works other than those which are stipulated to be supplied by the Authority.2. The contractor shall, at his own expense and without delay; supply to the Engineer in- charge samples of materials to be used on the work and shall get these approved in advance. All such materials to be provided by the contractor shall be in conformity with the specifications laid down or referred to in the contract. The contractor shall, if requested by the Engineer-in-charge furnish proof, to the satisfaction of the Engineer-in- charge that the materials so comply. The Engineer-in-charge shall within thirty days of supply of samples or within such further period as he may require intimate to the Contractor in writing whether samples are approved by him or not. If samples are not approved, the Contractor shall forthwith arrange to supply to the Engineer-in charge for his approval, fresh samples complying with the specifications laid down in the contract. When materials are required to be tested in accordance with specifications, approval of the Engineer-in-charge shall be issued after the test results are received.3. The contractor shall at his cost submit the samples of materials to be tested or analyzed and shall not make use of or incorporate in the work any materials represented by the samples until the required tests or analysis have been made and materials finally accepted by the Engineer-in-charge.4. If any additional tests apart from mandatory tests specified in the contract are required to be carried out at the instance of AAI or any other advisory body, to test the conformity of the item to the contract specifications, the cost of such tests shall be borne by AAI. In case the material or equipment fails in the above tests, the expenditure incurred by AAI on testing of such material or equipment along with incidental charges borne by AAI (if any) shall be recovered from the dues of the contractor and action shall be taken under Clause 16 and other relevant clauses of the contract.5. The contractor shall not be eligible for any claim or compensation either arising out of any delay in the work or due to any corrective measures required to be taken on account of and as a result of testing of materials.6. The contractor shall, at his cost, make all arrangements and shall provide all facilities as the Engineer-in-Charge may require for collecting and preparing the required number of samples for such tests at such time and to such place or places as may be directed by the Engineer-in-Charge and bear all charges including testing charges. The Engineer -in- Charge or his authorized representative shall always have access to the works and to all workshops and places where work component is being prepared or from where materials, manufactured articles or machinery are being obtained for the works and the contractor shall afford every facility and every assistance in obtaining the right to such access.
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		<p>7. The Engineer-in-Charge shall have full powers to require the removal from the premises of all materials which in his opinion are not in accordance with the specifications and in case of default, the Engineer-in-Charge shall be at liberty to employ at the expense of the contractor, other persons to remove the same without being answerable or accountable for any loss or damage that may happen or arise to such materials. The Engineer-in-Charge shall also have full powers to require other proper materials to be substituted thereof and in case of default, the Engineer-in-Charge may cause the same to be supplied and all costs which may attend such removal and substitution shall be borne by the Contractor.</p> <p>8. The contractor shall at his own expense, provide a material testing lab at the site for conducting routine field tests. The lab shall be equipped at least with the testing equipment as specified in schedule F.</p> <p>9. Details in respect of all material tests shall be maintained in the desired format and furnished with each Running Account Bill.</p>
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CLAUSE 10 B

(1)	Secured Advance on Nonperishable materials	<p>1. The contractor, on signing an indenture form specified in Annexure-10, shall be entitled to be paid during the progress of the execution of the work up to 75% of the assessed value of any materials, which are in the opinion of the Engineer-in-charge non-perishable, non-fragile and non-combustible and are in accordance with the contract and which have been brought on the site in connection therewith and are adequately stored and/or protected against damage by weather or other causes but which have not at the time of advance been incorporated in the works. When materials on account of which an advance has been made under this sub-clause are incorporated in the work, the amount of such advance shall be recovered/deducted from the next payment made under any of the clause or clauses of this contract. Such secured advance shall also be payable on other items of perishable nature, fragile and combustible with the approval of the Engineer-in-charge provided the contractor provides a comprehensive insurance cover for the full cost of such materials. The decision of the Engineer-in-charge shall be final and binding on the contractor in this matter. No secured advance, shall however, be paid on high-risk materials such as ordinary glass, sand, petrol, diesel. The secured advance shall also be payable against items brought at site for use in electrical and electronic systems. Such secured advance shall be payable on the submission of Collateral Undertaking submitted by the contractor against the payment of the advance. The contractor shall submit a form on testing and commissioning of electrical and electronic systems up to 75% of the assessed value of items but in any case it shall not exceed the full cost of items indicated for supply of equipment.</p>
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(II)	Mobilisation Advance	<p>2. Mobilization advances not exceeding 10% of the contract amount may be given, if requested by the contractor in writing within six months of the order to commence the work. Such advance shall be released in two or more installments to be determined by the Engineer-in-Charge. The amount of any installment shall not exceed 5% of the Contract amount of the work. The first installment of such advance shall be released by the Engineer-in-charge to the contractor on a request made by the contractor to the Engineer-in-Charge in this behalf. The second and subsequent installments shall be released by the Engineer-in-Charge only after the contractor furnishes a proof of the satisfactory utilization of the earlier installment(s) to the satisfaction of the Engineer-in-Charge.</p> <p>Before any instalment of advance is released, the contractor shall execute Bank Guarantee Bonds not more than 6 (six) in number from commercial Bank for the amount equal to 110% of the amount of advance and valid for the period till recovery of advance. This (Bank Guarantee from commercial Bank on prescribed format for the amount equal to 110% of the balance amount of advance) shall be kept renewed from time to time to cover the balance amount and likely period of complete recovery.</p>
	Interest on Mobilisation advance	<p>3. The mobilization advance in (2) above bear simple interest at the rate of 8% (Eight percent) per annum and shall be calculated from the date of payment to the date of recovery, both days inclusive, on the outstanding amount of advance.</p>
	Recovery of Mobilisation advance	<p>4. Recovery of such sums advanced shall be made by the deduction from the contractor's bills commencing after first ten percent of the gross value of the work is executed and paid, on pro-rata percentage basis to the gross value of the work billed beyond 10% in such a way that the entire advance is recovered by the time eighty percent of the gross value of the contract is executed and paid, together with interest due on the entire outstanding amount up to the date of recovery of the installment.</p> <p>If the circumstances are considered reasonable by the Engineer-in-Charge, the period mentioned for request by the contractor in writing for grant of mobilization advance may be extended at the discretion of the Engineer-in-Charge.</p>

CLAUSE 10 C

	Payment on Account of Increase in Prices/ Wages due to Statutory Order(s)	<p>If after submission of tender, if the price of any material incorporated in the work and/ or wages of labour increases as a direct result of the coming into force of any fresh, law or statutory rule or order (but not due to any variation of rate in GST applicable on such material(s) being considered under this clause) beyond the prices/wages prevailing at the time of the last stipulated date of receipt of tenders including extensions, if any, for the work during contract period</p>
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		<p>including the justified period extended under the provisions of Clause 5 of the contract without any action under Clause 2, then the amount of the contract shall accordingly be varied.</p> <p>If after submission of the tender, the price of any material incorporated in the works and/or wages of labour as prevailing at the time of last stipulated date of receipt of tender including extensions, if any, is decreased as a direct result of the coming into force of any fresh law or statutory rules or order (but not due to any variation of rate in GST applicable on such material(s) being considered under this clause), Authority shall in respect of materials incorporated in the works and/or labour engaged on the execution of the work after the date of coming into force of such law, statutory rule or order be entitled to deduct from the dues of the contractor, such amount as shall be equivalent to the difference between the prices of the materials and/or wages as prevailed at the time of the last stipulated date for receipt of tenders including extensions if any, for the work and the prices of materials and/or wages of labour on the coming into force of such law, statutory rule or order. This will be applicable for the contract period including the justified period extended under the provisions of Clause 5 of the contract without any action under Clause 2.</p> <p>Engineer-in-charge shall call books of account and other relevant documents from the contractor to satisfy himself about reasonability of increase in prices of materials and wages. The contractor shall, within a reasonable time of his becoming aware of any alteration in the price of any such materials and/ or wages of labour, give notice thereof to the Engineer-in-charge stating that the same is given pursuant to this condition together with all information relating thereto which he may be in position to supply.</p> <p>For this purpose, the labour component of 85% of the value of the work executed during period under consideration shall not exceed the percentage as specified in Schedule F, and the increase / decrease in labour shall be considered on the minimum daily wages in rupees of any unskilled mazdoor, fixed under any law, statutory rule or order.</p> <p>The cost of work for which escalation applicable is same as cost of work done shall be worked out as below:</p> <p>(a) Gross value of work done up to this quarter: (A) (b) Gross value of work done up to the last quarter: (B) (c) Gross value of work done since previous quarter (C)= (A-B)</p> <p>(d) Full assessed value of Secured Advance fresh paid in this quarter: (D)</p> <p>(e) Full assessed value of Secured Advance recovered in this quarter: (E)</p> <p>(f) Full assessed value of Secured Advance for which escalation Payable in this quarter, (F)= (D-E)</p> <p>(g) Advance payment made during this quarter: (G) (h) Advance payment recovered during this quarter: (H)</p>
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case, price index of a particular material is not issued by Ministry of Commerce and Industry then the price index of nearest similar material as indicated in Schedule F shall be used. The amount of the contract shall accordingly be varied for materials worked out as per the formula given below for individual material.

$$V = P \times Q \times \frac{CI - CI_0}{CI_0} \text{ where,}$$

V = Variation in material cost i.e. increase or decrease in the amount in rupees to be paid or recovered

P = Base price of material as issued by the authority of DG, CPWD or concerned Zonal Chief Engineer as indicated in Schedule 'F'.

For Projects and original works

Q = Quantity of material brought at site for bonafide use in the works since previous bill excluding any quantity consumed in the deviated quantity of deviation limit and extra/substituted item, paid to be paid as derived on the basis of market rates under clause 12.2

For maintenance works

Q = Quantity of material brought at site for bonafide use in the works since previous bill including any quantity consumed in the deviated quantity of deviation limit paid at agreement rates and extra/substituted items, but excluding nonscheduled extra/substituted items, paid/to be paid at market rates under clause 12.2

CI₀ = Price index for cement, steel reinforcement bars, structural steel and POL as issued by the DG, CPWD and corresponding to the time of base price of material as indicated in schedule 'F'. For other items, if any, provided in Schedule 'F', All India Wholesale Price Index for the material as published by the Economic Advisor to Government of India, Ministry of Industry and Commerce and corresponding to the time of base price of material indicated in Schedule 'F'.

CI = Price index for cement, steel reinforcement bars, structural steel and POL as issued by the authority of DG, CPWD for period under consideration. For other items, if any, provided in Schedule 'F' All India Wholesale Price Index for the material for the period under consideration as published by Economic Advisor to Government of India, Ministry of Industry and Commerce.

If actual price of material is less than base price P and CI ≥ P, this clause shall not be applicable.

Notwithstanding to the provisions of clause 2, the index price of material shall be considered as of the stipulated date of completion of the contract without any action under clause 2, the index price of material shall be considered as of the stipulated date of completion of the contract. For extra work (extra time to be calculated on prorata basis only) cost of extra work X stipulated period/ tendered

		<p>cost) shall be considered.</p> <p>Provided always that provisions of the schedule of Clause 10 C shall not be applicable in respect of material covered in this Clause.</p> <p>ii. If during progress of work, a variation of the nature of work, it is noticed that any material brought at site is in excess of requirement, then amount of escalation earned on such excess quantity of material shall be reckoned on the basis of cost indices as applied at time of payment of bill of materials or as prevailing at the time of effecting recovery, whichever is earlier.</p> <p>iii. Cement contained when specified in this clause includes cement component used in ready mix concrete brought at site from outside approved RMC plants, if any.</p> <p>iv. The date of issue of ready mix concrete shall be kept in a register and consumption for the same shall be calculated accordingly. If structural steel items are brought at site from workshop, then the variation shall be paid for structural steel up-to the period when the built-up item/finished product is brought at site.</p>
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Clause 10CC

	<p>Payment due to Increase/ Decrease in Prices / Wages (excluding material covered under clause 10CA) after Receipt of Tender for works.</p>	<p>If the prices of materials and/or wages of labour required for execution of the work increase, the contractor shall be compensated for such increase as per provisions detailed below and the amount of the contract shall accordingly be varied, subject to the condition that such compensation for escalation in prices and wages shall be available only for the work done during the stipulated period of the contract including the justified period extended under the provisions of Clause 5 of the contract without any action under Clause 2.</p> <p>Such compensation for escalation in the prices of materials and labour, when due, shall be worked out based on the following provisions:</p> <p>(i) The base date for working out such escalation shall be the last stipulated date of receipt of tenders including extension, if any.</p> <p>(ii) The cost of work on which escalation will be payable shall be reckoned as below:</p> <p>(a) Gross value of work done up to this quarter: (A)</p> <p>(b) Gross value of work done up to the last quarter: (B)</p> <p>(c) Gross value of work done since previous quarter (C)= (A-B)</p> <p>(d) Full assessed value of Secured Advance fresh paid in this quarter: (D)</p> <p>(e) Full assessed value of Secured Advance recovered in this quarter: (E)</p> <p>(f) Full assessed value of Secured Advance for which escalation Payable in this quarter, (F)= (D-E)</p> <p>(g) Advance payment made during this quarter: (G)</p>
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		<p>(h) Advance payment recovered during this quarter: (H) (i) Advance payment for which escalation is payable in this Quarter (I) = (G-H) (j) Amount paid based on prevailing market rates due to deviations/ variations as per Clause 12 during this quarter: (J)</p> <p>Then, $M = C + F + I - J$</p> <p>$N = 0.85 M$</p> <p>(k) Less cost of services rendered at fixed charges as per Clause 34 and recovered during the quarter (L) (l) Less cost of Engineering Consultancy Services rendered at fixed charges as per BOQ and paid during the quarter (X).</p> <p>Cost of work for which escalation is applicable</p> <p>$W = N - (L + X)$</p> <p>*Cost of Design & Detailing shall be treated as civil work for EPC contract.</p> <p>Components for materials, labour, etc. shall be pre-determined for every work and incorporated in the conditions of contract attached to the tender documents included in Schedule 'F'. The decision of the Engineer-in-Charge in working out such percentage shall be binding on the contractors.</p> <p>(iii) The following principles shall be followed while working out the payment/recovery on account of variation of prices of materials and/ or wages of labour.</p> <p>(a) Compensation for escalation shall be worked out at quarterly intervals and shall be with respect to the cost of work done as per bills paid during the three calendar months of the said quarter. The date of submission of bill finally by the contractor to the department shall be the guiding factor to decide the bills relevant to the quarterly interval. The first such payment shall be made at the end of three months after the month (excluding the month in which the work order issued) and thereafter at three months' interval. At the time of completion of the work, the last period for payment might become less than 3 months, depending on the actual date of completion.</p> <p>(b) The indices as defined below (excluding L_1) relevant to any quarter/period for which such compensation is to be paid shall be the arithmetical average of the indices relevant to the three calendar months. If the period up to the date of completion after the quarter covered by the last such instalment of payment, is less than three months, the indices shall be the average of the indices for the months falling within that period.</p> <p>(c) The minimum wage of an unskilled Mazdoor shall be the higher of the wage notified by Government of India, Ministry of Labour and that notified by the local administration both relevant to</p>
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		<p>the place of work and the period of reckoning.</p> <p>(d) The escalation for labour also shall be paid at the same quarterly intervals when escalation due to increase in cost of materials is paid under this clause. If such revision of minimum wages takes place during any such quarterly intervals, the escalation compensation shall be payable at revised rates only for work done in subsequent quarters;</p> <p>(e) Irrespective of variations in minimum wages of any category of labour, for the purpose of this clause, the variation in the rate for an unskilled Mazdoor alone shall form the basis for working out the escalation compensation payable on the labour component.</p> <p>(iv) In the event the price of materials and/or wages of labour required for execution of the work decreases, there shall be a downward adjustment of the cost of work so that such price of materials and/or wages of labour shall be deductible from the cost of work under this contract and in this regard the formula herein stated below under this Clause 10CC shall mutatis mutandis apply.</p> <p>(v) The contract price shall be adjusted for increase or decrease in rates and prices of labour, cement, steel reinforcement bar, fuel and lubricants and other input materials as per percentage of materials/labour specified in schedule F and in accordance with the principles, procedures and formulae specified below:</p> <p>(a) Price adjustment for change in cost shall be paid in accordance with the following formulae:</p> <p>(i) For Construction:</p> $V_w = W * (1/100) * [C_p * (C_1 - C_0)/C_0 + L_p * (L_1 - L_0)/L_0 + CM_p * (CM_1 - CM_0)/CM_0 + EM_p * (EM_1 - EM_0)/EM_0 + F_p * (F_1 - F_0)/F_0 + S_p * (S_1 - S_0)/S_0 + B_p * (B_1 - B_0)/B_0]$ <p>(ii) For Maintenance:</p> $V_w = W * (1/100) * [L_p * (L_1 - L_0)/L_0 + CM_p * (CM_1 - CM_0)/CM_0 + EM_p * (EM_1 - EM_0)/EM_0 + B_p * (B_1 - B_0)/B_0]$ <p>Where, W=cost of work done as per para (ii) above.</p> <p>V_w (Variation of cost of Work) = Increase or decrease in the cost of works during the period under consideration due to change in the rates for relevant components.</p> <p>Percentage components of materials & labour as specified in the schedule F are defined as under: -</p> <p>C_p- Cement component, L_p - Labour component, CM_p- Civil component of other construction materials, EM_p- E & M i/c IT and AS component of construction materials F_p-POL (Diesel) component</p>
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		<p>Sp- Reinforcement steel bars/TMT bars/structural steel (including strands and cables) component</p> <p>BP- Bitumen Component</p> <p>Indices for various components of materials & labour to be used for the purpose of this Clause are defined as under:</p> <p>Co= Wholesale Price Index for Pozzolana Cement published by office of the Economic Adviser, Ministry of Industry & Commerce valid for the month of last date of receipt of tender including extension, if any.</p> <p>Cl= Wholesale Price Index for Pozzolana Cement published by office of the Economic Adviser, Ministry of Industry & Commerce for the period under consideration.</p> <p>LO= Minimum daily wage in rupees of an unskilled adult mazdoor, fixed under any law, statutory rule or order as on the last date of receipt of tender including extension, if any.</p> <p>LI= Minimum wage in rupees of an unskilled adult mazdoor, fixed under any law, statutory rule or order as applicable on the last date of the quarter previous to the one under consideration.</p> <p>CMO= Price Index for civil components of other construction materials valid for the month of the last date of receipt of tender including extension, if any, as published by AAI.</p> <p>CM_I= Price Index for civil components of other construction materials for the period under consideration, as published by AAI.</p> <p>EM₀= Price Index for E & M components of construction materials valid for the month of the last date of receipt of tender including extension, if any, as published by AAI.</p> <p>EM_I= Price Index for E & M components of construction materials for the period under consideration, as published by AAI.</p> <p>F₀= Wholesale Price Index of HSD (High Speed Diesel) published by office of the Economic Adviser, Ministry of Industry & Commerce valid for the month of the last date of receipt of tender including extension, if any.</p> <p>FI= Wholesale Price Index of HSD (High Speed Diesel) published by office of the Economic Adviser, Ministry of Industry & Commerce for the period under consideration.</p> <p>SO= Wholesale Price Index of Mild Steel-long products published by office of the Economic Adviser, Ministry of Industry & Commerce valid for the month of the last date of receipt of tender including extension, if any</p> <p>SI= Wholesale Price Index of Mild Steel-long products published by office of the Economic Adviser, Ministry of Industry & Commerce for the period under consideration.</p> <p>BO= Wholesale Price Index of Bitumen published by office of the Economic Adviser, Ministry of Industry & Commerce valid for the month of the last date of receipt of tender including extension, if any</p> <p>B_I= Wholesale Price Index of Bitumen published by office of the Economic Adviser, Ministry of Industry & Commerce for the period under consideration.</p>
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CLAUSE 10 D

	Dismantled Material AAI Property	The contractor shall treat all materials obtained during dismantling of a structure, excavation of the site for a work etc. as property of AAI and such materials shall be disposed off to the best advantage of Authority according to the instructions in writing issued by the Engineer-in-charge.
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CLAUSE 11

	Work to be executed in accordance with specifications, drawings, orders etc.	The contractor shall execute the whole and every part of the work in the most substantial and workmanlike manner both as regards materials and otherwise in every respect in strict accordance with the specifications. The contractor shall also conform exactly, fully and faithfully to the design, drawings and instructions in writing in respect to the work signed by the Engineer in charge and the contractor shall be furnished free of charge one copy of the contract documents together with specifications, designs, drawings and instructions as are not included in the standard specifications of Central Public Works Department specified in Schedule F or in any Bureau of Indian Standard or any other published standard or code or Schedule of Rates or any other printed publication referred to elsewhere in the contract. The contractor shall comply with the provisions of the contract and with the care and diligence execute and maintain the works and provide all labour and materials, tools and plants including for measurements and supervision of all works, structural plans and other things of temporary or permanent nature required for such execution and maintenance in so far as the necessity for providing these, is specified or is reasonably inferred from the contract. The contractor shall take full responsibility for adequacy suitability and safety of all the works and methods of construction.
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CLAUSE 12

	Deviations/ variations extent and pricing	The engineer-in-charge shall have power (i) to make alteration in, omissions from, additions to, or substitutions for the original specifications, drawings, designs and instructions that may appear to him to be necessary or advisable during the progress of the work, and (ii) to omit a part of the works in case of non-availability of a portion of the site or for any other reasons and the contractor shall be bound to carry out the works in accordance with any instructions given to him in writing signed by the Engineering- charge and such alterations, omissions, additions or substitutions shall form part of the contract as if originally provided therein and any altered, additional or substituted work which the contractor may be directed to do in the manner specified above as part of the works, shall be carried out by the contractor on the same conditions in all respects including price on which he agreed to do the main work except as hereafter provided
12.1		The time for completion of the works shall, in the event of any deviations resulting in additional cost over the tendered value being ordered, be extended, if requested by the contractor, as follows:

		<p>i. In the proportion which the additional cost of the altered, additional or substituted work, bears to the original tendered value plus</p> <p>ii. 25% of the time calculated in (i) above or such further additional time as may be considered reasonable by the engineer-in-charge</p>
12.2	Deviation, Extra Items and Pricing	In the case of extra item(s) (items that are completely new, and in addition to the items contained in the contract) the contractor may within fifteen days of receipt of order or occurrence of the item(s) claim rates, supported by proper analysis, for the work and the Engineer-in-charge shall within Six weeks of the receipt of the claims supported by analysis, after giving consideration to the analysis of the rates submitted by the contractor, determine the rates on the basis of the market rates and the contractor shall be paid in accordance with the rates so determined.
	Deviation, substituted items pricing	<p>In the case of substituted items (items that are taken up with partial substitution or in lieu of items of work in the contract), the rate for the agreement item (to be substituted) and substituted item shall also be determined in the manner as mentioned in the following para.</p> <p>(i) If the market rate for the substituted item so determined is more than the market rate of the agreement item (to be substituted), the rate payable to the contractor for the substituted item shall be the rate for the agreement item (to be substituted) so increased to the extent of the difference between the market rates of substituted item and the agreement item (to be substituted).</p> <p>(ii) If the market rate for the substituted item so determined is less than the market rate of the agreement item (to be substituted), the rate payable to the contractor for the substituted item shall be the rate for the agreement item (to be substituted) so decreased to the extent of the difference between the market rates of substituted item and the agreement item (to be substituted).</p>
	Deviation, Deviated Quantities, Pricing	In the case of contract items, substituted items, contract cum substituted items, which exceed the limits laid down in schedule F, the contractor may within fifteen days of receipt of order or occurrence of the excess, claim revision of the rates, supported by proper analysis for the work in excess of the above mentioned limits, provided that if the rates so claimed are in excess of the rates specified in the schedule of quantities, the Engineer-in-Charge shall within prescribed time limit of receipt of the claims supported by analysis, after giving consideration to the analysis of the rates submitted by the contractor, determine the rates on the basis of the market rates and the contractor shall be paid in accordance with the rates so determined
12.3		The provisions of the preceding paragraph shall also apply to the decrease in the rates of items for the work in excess of the limits laid down in Schedule F, and the Engineer-in-Charge shall after giving notice to the contractor within one month of occurrence of the excess and after taking into consideration any reply received from him within fifteen days of the receipt of the notice, revise the rates for the work in question within one month of the expiry of the said period of fifteen days having regard to the market rates

12.4		The contractor shall send to the Engineer-in-Charge once every three months, an upto date account giving complete details of all claims for additional payments to which the contractor may consider himself entitled and of all additional work ordered by the Engineer-in-Charge, which he has executed during the preceding quarter failing which the contractor shall be deemed to have waived his right. However, the Executive Director Engineering may authorize consideration of such claims on merits.
12.5		For the purpose of operation of Schedule F, the following works shall be treated as works relating to foundation unless & otherwise defined in the contract: i. For Buildings: All works up to 1.2 meters above ground level or up to floor 1 level whichever is lower. ii. For abutments, piers and well staining: All works up to 1.2 m above the bed level. iii. For retaining walls, wing walls, compound walls, chimneys, overhead reservoirs/tanks and other elevated structures: All works up to 1.2 m above the ground level. iv. For roads, apron, runway & taxi track all items of excavation, filling GSBC and including treatment of sub-base. v. For reservoirs/tanks (other than overhead reservoirs/tanks): All works up to 1.2 meters above the ground level. vi. For basement: All works up to 1.2 m above ground level or up to floor 1 level whichever is lower
12.6		Any operation incidental to or necessarily has to be in contemplation of tenderer while filing, tender, or necessary for proper execution of the item included in the Schedule of quantities or in the schedule of rates mentioned above, whether or not, specifically indicated in the description of the item and the relevant specifications, shall be deemed to be included in the rates quoted by the tenderer or the rate given in the said schedule of rates, as the case may be. Nothing extra shall be admissible for such operations

CLAUSE 13

	Foreclosure of contract due to Abandonment or Reduction in Scope of Work	If at any time after acceptance of the tender or during the progress of work the purpose or object for which the work is being done changes due to any supervening cause and as a result of which the work has to be abandoned or reduced in scope the Engineer-in-Charge shall give notice in writing to that effect to the contractor and the contractor stating the decision as well as the cause for such decision and the contractor shall act accordingly in the matter. The contractor shall have no claim to any payment of compensation or otherwise whatsoever, on account of any profit or advantage which he might have derived from the execution of the works in full but which he did not derive in consequence of the foreclosure of the whole or part of the works. The contractor shall be paid at contract rates, full amount for works executed at site and, in addition, a reasonable amount as certified by the Engineer-in-Charge for the items hereunder mentioned which could not be utilized on the work to the full extent in view of the foreclosure; i. Any expenditure incurred on preliminary site work, e.g. temporary access roads, temporary labour huts, staff quarters and site office;
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	<p>storage accommodation and water storage tanks.</p> <p>ii. AAI shall have the option to take over contractor's materials or any part thereof either brought to site or of which the contractor is legally bound to accept delivery from suppliers (for incorporation in or incidental to the work) provided, however AAI shall be bound to take over the materials or such portions thereof as the contractor does not desire to retain. For materials taken over or to be taken over by AAI, cost of such materials as detailed by Engineer-in-Charge shall be paid. The cost shall, however, take into account purchase price, cost of transportation and deterioration or damage which may have been caused to materials whilst in the custody of the contractor.</p> <p>iii. If any materials supplied by AAI are rendered surplus, the same except normal wastage shall be returned by the contractor to AAI at rates not exceeding those at which these were originally issued, less allowance for any deterioration or damage which may have been caused whilst the materials were in the custody of the contractor. In addition, cost of transporting such materials from site to AAI stores, if so required by AAI, shall be paid</p> <p>iv. Reasonable compensation for transfer of T & P from site to contractor's permanent stores or to his other works, whichever is less. If T & P are not transported to either of the said places, no cost of transportation shall be payable.</p> <p>v. Reasonable compensation for repatriation of contractor's site staff and imported labour to the extent necessary.</p> <p>The contractor shall, if required by the Engineer- in-Charge, furnish to him, books of account, wage books, time sheets and other relevant documents and evidence as may be necessary to enable him to certify the reasonable amount payable under this condition.</p> <p>The reasonable amount of items on (i), (iv) and (v) above shall not be in excess of 2% of the cost of the work remaining incomplete on the date of closure, i.e. total stipulated cost of the work as per accepted tender less the cost of work actually executed under the contract and less the cost of contractor's materials at site taken over by the AAI as per item (ii) above. Provided always that against any payments due to the contractor on this account or otherwise, the Engineer- in-Charge shall be entitled to recover or be credited with any outstanding balances due from the contractor for advance paid in respect of any tool, plants and materials and any other sums which at the date of termination were recoverable by the AAI from the contractor under the terms of the contract. In the event of action being taken under clause 13 to reduce the scope of work, the contractor may furnish fresh Performance Guarantee on the same conditions, in the same manner and at the same rate for the balance tendered amount and initially valid upto the extended date the completion or stipulated date of completion if no extension has been granted plus 180 days beyond that. Wherever, such a fresh</p>
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	Performance Guarantee is furnished by the contractor, the Engineer in Charge may return the previous Performance Guarantee
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CLAUSE 14

<p>Carrying out part Work at risk & cost of contractor</p>	<p>a. If contractor: i. At any time makes default during currency of work or does not execute any part of the work with due diligence and continues to do so even after a notice in writing of 7 days in this respect from the Engineer-in-Charge; or ii. Commits default in complying with any of the terms and conditions of the contract and does not remedy it or takes effective steps to remedy it within 7 days even after a notice in writing is given in that behalf by the Engineer- in-Charge; or iii. Fails to complete the work(s) or items of work with individual dates of completion, on or before the date(s) so determined, and does not complete them within the period specified in the notice given in writing in that behalf by the Engineer-in-Charge.</p> <p>b. The Engineer- in-Charge without invoking action under clause 3 may, without prejudice to any other right or remedy against the contractor which have either accrued or accrue thereafter to AAI, by a notice in writing to take the part work / part incomplete work of any item(s) out of his hands and shall have powers to:</p> <p>i. Take possession of the site and any materials, constructional plant, implements, stores, etc., thereon; and/or</p> <p>ii. Carry out the part work / part incomplete work of any item(s) by any means at the risk and cost of the contractor</p> <p>c. The Engineer-in-Charge shall determine the amount, if any, is recoverable from the contractor for completion of the part work/ part incomplete work of any item(s) taken out of his hands and executed at the risk and cost of the contractor, the liability of contractor on account of loss or damage suffered by AAI because of action under this clause shall not exceed 10% of the tendered value of the work.</p> <p>d. In determining the amount, credit shall be given to the contractor with the value of work done in all respect in the same manner and at the same rate as if it had been carried out by the original contractor under the terms of his contract, the value of contractor's materials taken over and incorporated in the work and use of plant and machinery belonging to the contractor. The certificate of the Engineer-in-Charge as to the value of work done shall be final and conclusive against the contractor provided always that action under this clause shall only be taken after giving notice in writing to the contractor. Provided also that if the expenses incurred by the department are less than the amount payable to the contractor at his agreement rates, the difference shall not be payable to the contractor.</p> <p>e. Any excess expenditure incurred or to be incurred by AAI in completing the part work/ part incomplete work of any item(s) or the excess loss of damages suffered or may be suffered by AAI as aforesaid after allowing such credit shall without prejudice to any other right or remedy available to AAI in law or per as agreement be recovered from any money due to the contractor on any account, and if such money is insufficient, the contractor shall be called upon in writing and shall be liable to pay the same within 30 days.</p>
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		<p>f. If the contractor fails to pay the required sum within the aforesaid period of 30 days, the Engineer-in-Charge shall have the right to sell any or all of the contractors' unused materials, constructional plant, implements, temporary building at site etc. and adjust the proceeds of sale thereof towards the dues recoverable from the contractor under the contract and if thereafter there remains any balance outstanding, it shall be recovered in accordance with the provisions of the contract/provisions of law.</p> <p>In the event of above course being adopted by the Engineer-in-Charge, 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 engagements or made any advance on any account or with a view to the execution of the work or the performance of the contract</p>
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CLAUSE 15

	<p>Suspension of Work</p>	<p>i. The contractor shall, on receipt of the order in writing of the Engineer-in- Charge, (whose decision shall be final and binding on the contractor) suspend the progress of the works or any part thereof for such time and in such manner as the Engineer-in- Charge may consider necessary so as not to cause any damage or injury to the work already done or endanger the safety thereof for any of the following reasons:</p> <ul style="list-style-type: none"> a. on account of any default on the part of the contractor or; b. for proper execution of the works or part thereof for reasons other than the default of the contractor; or c. For safety of the works or part thereof. <p>The contractor shall, during such suspension, properly protect and secure the works to the extent necessary and carry out the instructions given in that behalf by the Engineer-in-Charge</p>
		<p>ii. If the suspension is ordered for reasons (b) and (c) in sub-para (i) above (but not attributed to contractor):</p> <ul style="list-style-type: none"> a. the contractor shall be entitled to an extension of time equal to the period of every such suspension PLUS 25% for completion of the item or group of items of work for which a separate period of completion is specified in the contract and of which the suspended work forms a part, and; b. If the total period of all such suspensions in respect of an item or group of items or work for which a separate period of completion is specified in the contract exceeds thirty days, the contractor shall, in addition, be entitled to such compensation as the Engineer-in-Charge may consider reasonable in respect of salaries and/or wages paid by the contractor to his employees and labour at site, remaining idle during the period of suspension, adding thereto 2% to cover indirect expenses of the contractor provided the contractor submits his claim supported by details to the Engineer-in- Charge within fifteen days of the expiry of the period of 30 days. c. If the works or part thereof is suspended on the orders of the Engineer-in- Charge for more than three months at a time, except when suspension is ordered for reasons (a) in sub-para (i) above, the contractor may after receipt of such order serve a written notice on

		<p>the Engineer-in-Charge requiring permission within fifteen days from receipt by the Engineer-in-charge of the said notice, to proceed with the work or part thereof in regard to which progress has been suspended and if such permission is not granted within that time, the contractor, if he intends to treat the suspension, where it affects only a part of the works as an omission of such part by AAI or where it affects whole of the works, as an abandonment of the works by AAI, shall within ten days of expiry of such period of 15 days give notice in writing of his intention to the Engineer- in-Charge. In the event of the contractor treating the suspension as an abandonment of the contract by AAI, he shall have no claim to payment of any compensations on account of any profit or advantage which he might have derived from the execution of the work in full but which he could not derive in consequence of the abandonment. He shall, however, be entitled to such compensation, as the Engineer-in-Charge may consider reasonable, in respect of salaries and/or wages paid by him to his employees and labour at site, remaining idle in consequence adding to the total thereof 2% to cover indirect expenses of the contractor provided the contractor submits his claim supported by details to the Engineer-in- Charge within 30 days of the expiry of the period of 3 months</p>
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CLAUSE 15 A

	<p>Compensation in case of delay due to late supply of stipulated material by AAI.</p>	<p>The contractor shall not be entitled to claim a compensation from AAI for the losses suffered by him on account of delay by AAI in the supply of material. Similarly, when the delay is covered by the difficulties relating to supply of wagons, force majeure or any reasonable cause beyond the control of AAI.</p> <p>The clause will not be applicable for works where no material is stipulated for issue by AAI.</p>
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CLAUSE 16

	<p>Action in case Work not done as per Specifications</p>	<p>All works under or in course of execution or executed in pursuance of the contract, shall at all times be open and accessible to the inspection and supervision of the Engineer-in-Charge, his authorize subordinates in charge of the work and all the superior officers, officer of the Quality Assurance Unit of the AAI or any organization engaged by the Department of Quality Assurance and of the Chief technical Examiner's Office, and the contractor shall, at all times, during the usual working hours and at all other times at which reasonable notice of the visit of such officers has been given to the contractor, either himself be present to receive orders and instructions or have a responsible agent duly accredited in writing, present for that purpose. Orders given to the Contractor's agent shall be considered to have the same force as if they had been given to the contractor himself. If it shall appear to the Engineer-in -charge or his authorized subordinates in charge of the work or to the Executive Director-In-charge of quality assurance or his subordinate officers or the officers of the organization engaged by the AAI for quality Assurance or to the Chief Technical Examiner or his subordinate officers, that any work has been executed with unsound, imperfect, or unskillful workmanship, or with materials or articles</p>
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		<p>provided by him for the execution of the work which are unsound or of a quality inferior to that contracted or otherwise not in accordance with the contract, the contractor shall, on demand in writing which shall be made within twelve months (six months in the case of work costing Rs.10 lac and below except road work) of the completion of the work from the Engineer-in-Charge specifying the work, materials or articles complained of notwithstanding that the same may have been passed, certified and paid for forthwith rectify, or remove and reconstruct the work so specified in whole or in part, as the case may require or as the case may be, remove the materials or articles so specified and provide other proper and suitable materials or articles at his own charge and cost. In the event of the failing to do so within a period specified by the Engineer-in-Charge in his demand aforesaid, then the contractor shall be liable to pay compensation at the same rate as under clause 2 of the contract (for non-completion of the work in time) for this default. In such case the Engineer-in-Charge may not accept the item of work at the rates applicable under the contract but may accept such items at reduced rates as the authority specified in schedule 'F' may considered reasonable during the preparation of on account bills or final bill if the item is so acceptable without detriment to the safety and utility of the item and the structure or he may reject the work outright without any payment and/or get it and other connected and incidental items rectified, or removed and re-executed at the risk and cost of the contractor. Decision of the Engineer-in-Charge to be conveyed in writing in respect of the same will be final and binding on the contractor</p>
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CLAUSE 17

	<p>Contractor Liable for Damages, defects during maintenance period</p>	<p>If the contractor or his working people or servants shall break, deface, injure or destroy any part of building in which they may be working, or any building, road, road kerb fence, enclosure, water pipe, cables, drains, electric or telephone post or wires, trees, grass or grassland, or cultivated ground contiguous to the premises on which the work or any part is being executed, or if any damage shall happen to the work while in progress, from any cause whatever or if any defect, shrinkage or other faults appear in the work within twelve months (six months in the case of work costing Rs. Ten lacs and below except road work) after a certificate final or otherwise of its completion shall have been given by the Engineer-in-charge as aforesaid arising out of defect or improper materials or workmanship the contractor shall upon receipt of a notice in writing on that behalf make the same good at his own expense or in default the Engineering- charge cause the same to be made good by other workmen and deduct the expense from any sums that may be due or at any time thereafter may become due to the contractor, or from his security deposit or the proceeds of sale thereof or of a sufficient portion thereof. The security deposit of the contractor shall not be refunded before the expiry of twelve months (six months in the case of work costing Rs. Ten lacs and below except road work) after the issue of the certificate final or otherwise, of completion of work, or till the final bill has been prepared and passed whichever is later. Provided that in the case of road work, if</p>
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		<p>in the opinion of the Engineer-in-charge, half of the security deposit is sufficient, to meet all liabilities of the contractor under this contract, half of the security deposit will be refundable after six months and the remaining half after twelve months of the issue of the said certificate of completion or till the final bill has been prepared and passed whichever is later.</p> <p>In case of Maintenance and Operation works of E&M services, the security deposit deducted from contractors shall be refunded within one month from the date of final payment or within one month from the date of completion of the maintenance contract whichever is earlier</p>
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CLAUSE 18

	Contractor to Supply Tools & Plants etc.	<p>The contractor shall provide at his own cost all materials (except such special materials, if any, as may in accordance with the contract be supplied from the Engineer-in charge's stores) machinery, tools & plants as specified in Schedule F. in addition to this, appliances, implements, other plants, ladders, cordage, tackle, scaffolding and temporary works required for the proper execution of the work, whether original, altered or substituted and whether included in the specifications or other documents forming part of the contract or referred to in these conditions or not, or which may be necessary for the purpose of satisfying or complying with the requirements of the Engineer-in charge as to any matter as to which under these conditions he is entitled to be satisfied, or which he is entitled to require together with carriage therefor to and from the work. The contractor shall also supply without charge the requisite number of persons with the means and materials, necessary for the purpose of setting out works, and counting, weighing and assisting the measurement for examination at any time and from time to time of the work or materials. Failing his so doing, the same may be provided by the Engineer-in-charge at the expense of the contractor and the expenses may be deducted, from any money due to the contractor, under this contract or otherwise and / or from his security deposit or the proceeds of sale thereof, or of a sufficient portions thereof</p>
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CLAUSE 18 A

	Recovery of Compensation paid to Workmen	<p>In every case in which by virtue of the provisions sub-section(i) of Section 12, of the Workmen's Compensation Act, 1923, AAI is obliged to pay compensation to a workman employed by the contractor, in execution of the works, AAI will recover from the contractor, the amount of the compensation so paid, and, without prejudice to the rights of the AAI under sub-section(2) of Section 12, of the said act, AAI 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 AAI to the contractor whether under this contract or otherwise. AAI shall not be bound to contest any claim made against it under subsection(1) of Section 12, of the said Act, except on the written request of the contractor and upon his giving to AAI full security for all costs for which AAI might become liable in consequence of contesting such claim</p>
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CLAUSE 18 B

	Ensuring Payment and Amenities to Workers if Contractor fails	In every case in which by virtue of the provisions of the Contract Labour (Regulation and Abolition) act 1970, and the Contract Labour (Regulation and Abolition) Central Rules, 1971, AAI is obliged to pay any amounts of wages to a workman employed by the contractor in execution of the works, or to incur any expenditure in providing welfare and health amenities required to be provided under the above said Act and the rules under Clause 19H or under the AAI Contractor's Labour Regulations or under the Rules framed by AAI from time to time for the protection of health and sanitary arrangements for workers employed by AAI Contractors, AAI 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 AAI under sub section (2) of Section 20, sub section (4) of Section 21, of the Contract Labour (Regulation and Abolition) Act, 1970, AAI 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 AAI to the contractor whether under this contract or otherwise AAI shall not be bound to contest any claim made against it under sub section (1) of Section 20, sub section (4) of Section 21, of the said Act, except on the written request of the contractor and upon his giving to the AAI full security for all costs for which AAI might become liable in contesting such claim
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CLAUSE 19

	Labour laws to be complied by the Contractor	<p>The contractor shall obtain a valid license under the contract labour (R&A) Act, 1970 and the Contract Labour (Regulation and Abolition) Central Rules, 1971, before the commencement of the work, and continue to have a valid license until the completion of the work. The contractor shall also abide by the provisions of the Child Labour (Prohibition and Regulation) Act, 1986.</p> <p>The contractor shall also comply with the provisions of the building and other construction workers (Regulation of Employment & Conditions of Service) Act, 1996 and the building and other Construction Workers Welfare Cess Act, 1996. Any failure to fulfill these requirements shall attract the penal provisions of this contract arising out of the resultant non execution of the work</p>
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CLAUSE 19 A

		No labour below the age of fourteen years shall be employed on the work.
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CLAUSE 19 B

	Payment of wages	<p>Payment of wages:</p> <p>i The contractor shall pay to labour employed by him either directly or through subcontractors, wages not less than fair wages as defined in the AAI Contractor's Labour Regulation or as per the provisions of the Contract Labour (Regulation and Abolition) act, 1970 and the contract labour (Regulation and Abolition) Central Rules, 1971 wherever applicable.</p>
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		<p>ii The contractor shall, notwithstanding the provisions of any contract to the contrary, cause to be paid fair wage to labour indirectly engaged on the work, including any labour engaged by his sub-contractors in connection with the said work, as if the labour had been immediately employed by him.</p> <p>iii In respect of all labour directly or indirectly employed in the works for performance of the contractor's part of this contract, the contractor shall comply with or cause to be complied with the Airports Authority of India contractor's Labour Regulations made by AAI from time to time in regard to payment of wages wage period, deductions from wages recovery of wages not paid and deductions unauthorisedly made, maintenance of wage books or wage slips, publication of scale of wages and other terms of employment, inspection and submission of periodical returns and all other matters of the like nature or as per the provisions of the Contract Labour (Regulation and Abolition) Act, 1970 and the Contract Labour (Regulation and Abolition) Central Rules, 1971, wherever applicable.</p> <p>iv. The following deductions shall be permissible to be made by the Engineer-in- Charge.</p> <p>a. The Engineer-in-charge concerned shall have the right to deduct from the moneys due to the contractor or any sum required or estimated to be required for making good the loss suffered by a worker or workers by reason of non-fulfillment of the conditions of the contract for the benefit of the workers, non-payment of wages or of deductions made from his or their wages which are not justified by their terms of the contract or nonobservance of the Regulations.</p> <p>b. Under the provision of Minimum Wages (Central) Rule 1950 the contractor is bound to allow to the labours directly or indirectly employed in the works one day rest for 6 days continuous work and pay wages at the same rate as for duty. In the event of default, the Engineer-in-charge shall have the right to deduct the sum or sums not paid on account of wages for weekly holidays to any labours and pay the same to the persons entitled thereto from any money due to the contractor by the Engineer-in-charge concerned.</p> <p>In the case of Union Territory of Delhi, however, as the all-inclusive minimum daily wages fixed under Notification of the Delhi Administration No.F.12(162)MWO/DAB/43884-91, dated 31.12.1979 as amended from time to time are inclusive of wages for the weekly day of rest, the question of extra payment for weekly holiday would not arise.</p> <p>v. The contractor shall comply with the provisions of the Payment of wages Act, 1936, Minimum Wages Act, 1948, Employees Liability Act, 1938, Workmen's Compensation Act, 1923, Industrial Disputes Act, 1947, Maternity Benefits Act, 1961, and the Contractor's Labour (Regulation and Abolition) Act 1970, or the modifications thereof or any other laws relating thereto and the rule made thereunder from time to time.</p> <p>vi. The contractor shall indemnify and keep indemnified Authority against payments to be made under and for the observance of the</p>
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		<p>laws aforesaid and the AAI Contractor's Labour Regulations without prejudice to his right to claim indemnity from his sub-contractors.</p> <p>vii. The laws aforesaid shall be deemed to be a part of this contract and any breach thereof shall be deemed to be a breach of this contract.</p> <p>viii. Whatever is the minimum wage for the time being, or if the wage payable is higher than such wage, such wage shall be paid by the contractor to the workmen directly without the intervention of Jamadar and that Jamadar shall not be entitled to deduct or recover any amount from the minimum wage payable to the workmen as and by way of commission or otherwise</p> <p>ix. The contractor shall ensure that no amount by way of commission or otherwise is deducted or recovered by the Jamadar from the wage of workmen</p>
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CLAUSE 19 C

		<p>In respect of all labour directly or indirectly employed in the work for the performance of the contractor's part of this contract, the contractor shall at his own expense arrange for the safety provisions as per AAI Safety Code framed from time to time and shall at his own expense provide for all facilities in connection therewith. In case the contractor fails to make arrangement and provide necessary facilities as aforesaid, he shall be liable to pay a penalty of Rs. 200/- for each default and in addition, the Engineer-in charge shall be at liberty to make arrangement and provide facilities as aforesaid and recover the costs incurred in that behalf from the contractor</p>
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CLAUSE 19 D

		<p>The contractor shall submit by the 4th and 19th of every month, to the Engineer- in charge a true statement showing in respect of the second half of the preceding month and the first half of the current month respectively:</p> <p>i. the number of labourers employed by him on the work,</p> <p>ii. their working hours,</p> <p>iii. the wages paid to him,</p> <p>iv. the accidents that occurred during the said fortnight showing the circumstances under which they happened and the extent of damage and injury caused by them, and</p> <p>v. the number of female workers who have been allowed maternity benefit according to Clause 19F and the amount paid to them</p> <p>Failing which the contractor shall be liable to pay to AAI, a sum not exceeding Rs. 200/- for each default or materially incorrect statement. The decision of the Engineer- in-charge shall be final in deducting from any bill due to the contractor; the amount levied as fine and shall be binding on the contractor.</p>
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CLAUSE 19 E

		In respect of all labour directly or indirectly employed in the works for the performance of the contractor's part of this contract, the contractor shall comply with or cause to be complied with all the rules framed by AAI from time to time for the protection of health and sanitary arrangements for workers employed by the AAI and its contractor.
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CLAUSE 19 F

		<p>Leave and pay during leave shall be regulated as follows:</p> <p>1. Leave:</p> <p>i. In the case of delivery - maternity leave not exceeding 8 weeks, 4 weeks upto and including the day of delivery and 4 weeks following that day.</p> <p>ii. In the case of miscarriage - upto 3 weeks from the date of miscarriage.</p> <p>2. Pay:</p> <p>i. In the case of delivery – leave pay during maternity leave will be at the rate of women's average daily earnings, calculated on total wages earned on the days when full time work was done during a period of three months immediately preceding the date on which she gives notice that she expects to be confined or at the rate of Rupee one only a day whichever is greater.</p> <p>ii. In the case of miscarriage – leave pay at the rate of average daily earning calculated on the total wages earned on the days when full time work was done during a period of three months immediately preceding the date of such miscarriage.</p> <p>3. Conditions for the grant of Maternity Leave: No maternity leave benefit shall be admissible to a woman unless she has been employed for a total period of not less than six months immediately preceding the date on which she proceeds on leave.</p> <p>4. The contractor shall maintain a register of Maternity (Benefit) in the Prescribed Form as shown in appendix – III and IV, and the same shall be kept at the place of work.</p>
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CLAUSE 19 G

		In the event of the contractor (s) committing a default or breach of any of the provisions of the Airports Authority of India Contractor's Labour Regulations and Model Rules for the protection of health and sanitary arrangements for the workers as amended from time to time or furnishing any information or submitting or filling any statement under the provisions of the above Regulations and Rules which is materially incorrect, he / they shall, without prejudice to any other liability, pay to the AAI a sum not exceeding Rs.200/- for every default, breach or furnishing, making, submitting, filing such materially incorrect statements and in the event of the contractor(s) defaulting continuously in this respect, the penalty may be enhanced to Rs.200/- per day for each day of default subject to a maximum of 5 per cent of the estimated cost of the work put to tender. The decision of the Engineer-in-Charge shall be final and binding on the parties.
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		<p>Should it appear to the Engineer-in-Charge that the contractor (s) is / are not properly observing and complying with the provision of the AAI Contractor's Labour Regulations and Model Rules and the provisions of the Contract Labour (Regulation and Abolition) Act 1970, and the Contract Labour (R&A) Central Rules 1971, for the protection of health and sanitary arrangements for work – people employed by the contractor (s) (hereinafter referred as “the said Rules”) the Engineer-in-Charge shall have power to give notice in writing to the contractor (s) requiring that the said Rules be complied with and the amenities prescribed therein be provided to the work-people within a reasonable time to be specified in the notice. If the contractor (s) shall fail within the period specified in the notice to comply with and/ observe the said Rules and to provide the amenities to the work-people as aforesaid, the Engineer-in-Charge shall have the power to provide the amenities hereinbefore mentioned at the cost of the contractor (s). The contractor (s) shall erect, make and maintain at his / their own expense and to approved standards all necessary huts and sanitary arrangements required for his / their work –people on the site in connection with the execution of the works, and if the same shall not have been erected or constructed, according to approved standards, the Engineer-in-Charge shall have power to give notice in writing to the contractor (s) requiring that the said huts and sanitary arrangements be remodeled and / or reconstructed according to approved standards, and if the contractor (s) shall fail to remodel or reconstruct such huts and sanitary arrangements according to approved standards within the period specified in the notice, the Engineer-in-Charge shall have the power to remodel or reconstruct such huts and sanitary arrangements according to approved standards at the cost of the contractor (s)</p>
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CLAUSE 19 H

		<p>The contractor (s) shall at his / their own cost provided his/ their labour with a sufficient number of huts (hereinafter referred to as the camp) on the following specifications on a suitable plot of land to be approved the Engineer-in-Charge.</p> <p>i. Facility to be provided</p> <p>a. The minimum height of each hut at the eaves level shall be 2.10m (7ft.) and the floor area to be provided will be at the rate of 2.7 sq.m. (30 sq.ft.) for each member of the worker's family staying with the labourer.</p> <p>b. The contractor shall in addition construct suitable cooking places having a minimum area of 1.80m x 1.50m (6' x 5') adjacent to the hut for each family</p>
		<p>c. The contractor(s) shall also construct temporary latrines and urinals for the use of the labourers each on the scale of not less than four per each one hundred of the total strength, separate latrines and urinals being provided for women.</p> <p>d. The contractor (s) shall construct sufficient number of bathing and washing places one unit for every 25 persons residing in the camp. These bathing and washing places shall be suitably screened.</p>

	<p>ii. Specifications</p> <p>a. All the huts shall have walls of sun-dried or burnt-bricks laid in mud mortar or other suitable local materials as may be approved by the Engineer-in- Charge in case of sun-dried bricks, the walls should be plastered with mud gobi on both sides. The floor may be kutcha but plastered with mud gobi and shall be at least 15 cm (6”) above the surrounding ground. The roofs shall be laid with the thatch or any other materials as may be approved by the Engineer-in-Charge and the contractor shall ensure that throughout the period of their occupation, the roofs remain water – tight.</p> <p>b. The contractor (s) shall provide each hut with proper ventilation.</p> <p>c. All doors, windows and ventilators shall be provided with suitable leaves for security purposes.</p> <p>d. There shall be kept an open space of at least 7.2 m (8 yards) between the rows of huts which may be reduced to 6m (20 ft.) according to the availability of site with the approval of the Engineer-in-Charge. Back to back construction will be allowed.</p> <p>iii. Water Supply</p> <p>The contractor (s) shall provided adequate supply of water for the use of labourers. The provisions shall not be less than two gallons of pure and wholesome water per head per day for drinking purposes and three gallons of clean water per head per day for bathing and washing purposes. Where piped water supply is available supply shall be at stand posts and where the supply is from wells or river, tanks which may be of metal or masonry, shall be provided. The contractor (s) shall also at his / their own cost make arrangements for laying pipe lines for water supply to his / their labour camp from the existing mains wherever available and shall pay all fees and charges therefor.</p> <p>iv. The site selected for the camp shall be high ground, removed from jungle.</p> <p>v. Disposal of Excreta:</p> <p>The contractor (s) shall make necessary arrangement for the disposal of excreta from the latrines by trenching or incineration which shall be according to the requirements laid down by the Local Health Authorities. If trenching or incineration is not allowed, the contractor (s) shall make arrangements for the removal of the excreta through the Municipal Committee / authority and inform it about the number of labourers employed so that arrangements may be made by such Committee / authority for the removal of excreta. All charges on this account shall be borne by the contractor and paid direct by him to the Municipality / authority. The contractor shall provide one sweeper for every eight seats in case of dry system.</p> <p>vi. Drainage</p> <p>The contractor (s) shall provide efficient arrangements for draining away sullage water so as to keep the camp neat and tidy.</p>
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		<p>vii. The contractor (s) shall make necessary arrangements for keeping the camp area sufficiently lighted to avoid accidents to the workers.</p> <p>viii. Sanitation The contractor(s) shall make arrangements for conservancy and sanitation in the labour camps according to the rules of the Local Public Health and Medical Authorities</p>
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CLAUSE 19 I

		<p>The Engineer-in-Charge may require the contractor to dismiss or remove from the site of the work any person or persons in the contractors' employ upon the work who may be incompetent or misconduct himself and the contractor shall forthwith comply with such requirements. In respect of maintenance/repair or renovation works etc. where the labour have an easy access to the individual work premises, the contractor shall issue identity cards to the labourers, whether temporary or permanent and he shall be responsible for any untoward action on the part of such labour. Assistant Manager/Junior Executive will display a list of contractors working in the colony/Blocks on the notice board in the colony and also at the service center, to apprise the residents about the same</p>
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CLAUSE 19 J

		<p>It shall be the responsibility of the contractor to see that the building under construction is not occupied by anybody unauthorized during construction, and is handed over to the Engineer-in-Charge with vacant possession of complete building. If such building though completed is occupied illegally, then the Engineer-in-Charge shall have the option to refuse to accept the said building/buildings in that position. Any delay in acceptance on this account will be treated as the delay in completion and for such delay, a levy upto 5% of tendered value of work may be imposed by the General Manager Engg. Whose decision shall be final both with regard to the justification and quantum and be binding on the contractor. However, the Executive Director Engg., through a notice may require the contractor to remove the illegal occupation any time on or before construction and delivery</p>
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CLAUSE 19 K

	Employment of skilled / semiskilled workers	<p>The contractor shall at all stages of work deploy skilled / semi-skilled tradesmen who are qualified and possess certificate in particular trade from CPWD Training Institute / Industrial Training Institute/National Institution of Construction Management and research (NICMAR) National Academy of Construction, CIDC or any similar reputed and recognized Institute managed / certified by State / Central Government. The number of such qualified tradesmen shall not be less than 20% of total skilled / semi-skilled workers required in each trade at any stage of work.</p>
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		<p>The contractor shall submit number of man days required in respect of each trade, its scheduling and the list of qualified tradesmen along with requisite certificate from recognized Institute to Engineer in charge for approval. Notwithstanding such approval, if the tradesmen are found to have inadequate skill to execute the work of respective trade, the contractor shall substitute such tradesmen within two days of written notice from Engineer -in- Charge. Failure on the part of contractor to obtain approval of Engineer-in-Charge or failure to deploy qualified tradesmen will attract a compensation to be paid by contractor at the rate of Rs.100 per such tradesman per day. Decision of Engineer in Charge as to whether particular tradesman possesses requisite skill and amount of compensation in case of default shall be final and binding.</p> <p>Provided always, that the provision of this clause shall not be applicable for works with estimated cost put to tender being less than Rs.5 crores</p>
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CLAUSE 19 L

	Registration with EPFO and ESIC	The ESI and EPF contributions on the part of employer in respect of this contract shall be paid by the contractor. These contributions on the part of the employer paid by the contractor shall be reimbursed by the Engineer-in-charge to the contractor on actual basis.
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CLAUSE 19 M

	Compliance of NGT guidelines	The contractor is required to follow latest NGT guidelines at the construction site and any violation of such guidelines will be in his account
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CLAUSE 20

	Minimum Wages Act to be Complied with	The contractor shall comply with all the provision of the Minimum Wages Act, 1948, and Contract Labour (Regulation and Abolition) Act, 1970 amended from time to time and rules framed thereunder and other labour laws affecting contract labour that may be brought into force from time to time
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CLAUSE 20(A)

	Employees Provident Fund & Miscellaneous Provision Act 1952/Jammu & Kashmir Employees	<p>The Contractor shall comply with all the provisions of the Employees Provident Fund & Misc. Provisions Act, 1952/ Jammu & Kashmir Employees Provident Funds (and Miscellaneous Provisions) Act, 1961 and ESI Act, 1948, amended from time to time and rules framed thereunder. Some of the provisions are given below:</p> <p>a. The contractor shall intimate his PF Account Code No. allotted by Regional PF Commissioner and ESI Registration No. allotted by ESI Corporation after award of work and shall continue to have valid PF</p>
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	<p>Provident Funds (and Miscellaneous Provisions) Act, 1961 and State Insurance (ESI) Act, 1948.</p>	<p>Account Code No. and ESI Registration No. till actual completion of the contract.</p> <p>b. The contractor shall provide a list of contract Workers engaged for contract work along with their PF Account No. & ESI Registration No.</p> <p>c. The contractor by 20th of every month shall provide a monthly statement showing recoveries of contribution and proof of remittance of provident fund contribution to RPFC and ESI contributions to ESI Corporation in respect of Workers engaged in contract work.</p> <p>d. The contractor shall provide copies of PF & ESI challans of monthly contributions in respect of contract workers engaged for contract work on month to month basis.</p> <p>AAI reserves the right to withhold minimum amount as detailed under, from the running account payments, if PF / ESI contributions are not paid by the contractor and proof to that effect have not been produced regularly on due dates. To withhold 3% for building work & 1.5% for road/pavement work of the total amount of work done during the period considered</p>
		<p>ESI & EPF amount paid to the statutory authorities by the contractor shall be reimbursed on actual basis on submission of documentary evidence</p>

CLAUSE 21

	<p>Work not to be sublet. Action in case of insolvency</p>	<p>The contract shall not be assigned or sublet without the written approval of Engineer-in-Charge. And if the contractor shall assign or sublet his contract, or attempt to do so, or become insolvent or commence any insolvency proceedings or make any composition with his creditors or attempt to do so, or if any bribe, gratuity, gift, loan, perquisite, reward or advantage pecuniary or otherwise, shall either directly or indirectly, be given, promised or offered by the contractor, or any of his servants or agent to any public officer or person in the employ of AAI in any way relating to his office or employment, or if any such officer or person shall become in any way directly or indirectly interested in the contract, the Engineers in Charge on behalf of the AAI shall have power to adopt the course specified in Clause 3 hereof in the interest of AAI and in the event of such course being adopted, the consequences specified in the said Clause 3 shall ensue</p>
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CLAUSE 22

		<p>All sums payable by way of compensation under any of these conditions shall be considered as reasonable compensation to be applied to the use of AAI without reference to the actual loss or damage sustained and whether or not any damage shall have been sustained</p>
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CLAUSE 23

	Changes in firm's Constitution to be intimated	Where the contractor is a partnership firm, the previous approval in writing of the Engineer-in-Charge shall be obtained before any change is made in the constitution of the firm. Where the contractor is an individual or a Hindu undivided family business concern such approval as aforesaid shall likewise be obtained before the contractor enters into any partnership agreement where under the partnership firm would have the right to carry out the works hereby undertaken by the contractor. If previous approval as aforesaid is not obtained, the contract shall be deemed to have been assigned in contravention of Clause 21 hereof and the same action may be taken and the same consequences shall ensue as provided in the said Clause 21
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CLAUSE 24

		All works to be executed under the contract shall be executed under the direction and subject to the approval in all respects of the Engineer-in-Charge who shall be entitled to direct at what point or points and in what manner they are to be commenced, and from time to time carried on
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CLAUSE 25

	Dispute Resolution Mechanism and Arbitration	<p>Dispute Resolution Clause</p> <p>All disputes or differences which may arise out of or in connection with or incidental to the Agreement(s) including any dispute or difference regarding the interpretation of terms and conditions of any clause(s) thereof shall be dealt with as provided hereinafter:</p> <p>i) Through Mediation: All dispute(s), at the first instance, shall be referred to the Mediation Committee of Independent Experts (MCIE) or individual mediator for mediation as per AAI Mediation Policy and applicable laws. All cost of mediation, shall be borne equalZv by the parties.</p> <p>In case either party withdraws from the Mediation or the dispute(s) is not resolved within 120 days of reference to the Mediation, then the aggrieved party may invoke arbitration through sub para (ii) within 30 days from the date of receipt of Partial Settlement Agreement or Failure Report.</p> <p>ii) Adjudication through Arbitration: In case no final settlement has been arrived at between the parties after mediation or partially settled as per sub Para (i) above, the unresolved dispute(s), on invocation by the aggrieved party shall be referred for adjudication by arbitration.</p> <p>a) When the amount involved is above 25 crores, adjudication shall be made by Arbitral Tribunal comprising of 03 arbitrators. Each party to appoint one arbitrator and the two appointed arbitrators shall appoint the Presiding Arbitrator.</p> <p>b) When the amount involved is Rs. 25 Crores and below shall be referred to a Sole Arbitrator to be appointed by</p>
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		<p>Chairman/Member, AAI, after obtaining consent of the other party, as per format annexed at Annexure-A.</p> <p>Unless the contract has already been repudiated or terminated, the parties shall, in every case, continue to proceed to perform their respective obligations under the agreement.</p> <p>Arbitration proceedings shall be conducted in accordance with the provisions of the Arbitration and Conciliation Act, 1996, as amended from time to time.</p> <p>Fee payable to the Arbitrator(s) shall be as per Schedule-JV of the Arbitration & Conciliation Act, 1996 and shall be borne by both the parties equally.</p> <p>No dispute shall be referred for resolution under this clause through arbitration in matters for which eviction & recovery procedure is provided under Chapter -VA of the Airports Authority of India Act, 1994.</p> <p style="text-align: right;">Annexure-A</p> <p style="text-align: center;">Format Consent Letter</p> <p style="text-align: center;">Dispute Resolution Clause- Para 2 ii (b)</p> <p>To,</p> <p>The Chairman/Member/Regional Executive Director, Airports Authority of India -----</p> <p>SUB: Request for appointment of arbitrator under Clause ----- of the -----agreement dated ----- for-----</p> <p>Sir/Madam,</p> <ol style="list-style-type: none"> 1. We state that _ _ _ _ _ (contractor/agency) was awarded work/concession of at ---- - ---Airport/ (other location) of Airports Authority of India through Award Letter dated _ _ _ 2. Dispute related to ___ __ arose between us (contractor/agency) and AAI. 3. On ___(date), dispute was referred to Mediation as per AAI Mediation Policy and any settlement on the following claims/disputes was not reached between the parties: <ol style="list-style-type: none"> i) ii) iii) 4. A concise statement along with claim in respect of each of such disputes is attached herewith. 5. In view of the above, we invoke arbitration under clause___ of the _ _ _ _ _ agreement between us and AAI and as per proviso to Section-12(5) of the Arbitration & Conciliation Act, 1996, we hereby agree and request the Chairman/Member/Regional Executive Director AAI to
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		<p>appoint arbitrator from AAI 's panel of arbitrators.</p> <p>6. I / We also give my/ our consent for appointing any of an arbitrator from AAJ's approved panel of arbitrators, as per paragraph-5 above.</p> <p>Thanking you,</p> <p>(_____)</p> <p>(Authorized Signatory of)</p> <p>Encl: As above</p>
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CLAUSE 26

Contractor to indemnify AAI against Patent Rights	<p>The contractor shall fully indemnify and keep indemnified the Chairman AAI against any action, claim or proceeding relating to infringement or use of any patent or design or any alleged patent or design rights and shall pay and royalties which may be payable in respect of any article or part thereof included in the contract. In the event of any claims made under or action brought against AAI in respect of any such matters as aforesaid, the contractor shall be immediately notified thereof and the contractor shall be at liberty, at his own expense, to settle any dispute or to conduct any litigation that may arise there from, provided that the contractor shall not be liable to indemnify the AAI if the infringement of the patent or design or any alleged patent or design right is the direct result of an order passed by the Engineer-in-Charge in this behalf</p>
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CLAUSE 27

Lump sum Provisions in Tender	<p>When the estimate on which a tender is made, includes lump sum in respect of parts of the work, the contractor shall be entitled to payment in respect of the items of work involved or the part of the work in question at the same rates as are payable under this contract for such items ,or if the part of work in question is not, in the opinion of the Engineer-in-Charge payable of measurement, the Engineer-in-Charge may at his discretion pay the lump- sum amount entered in the estimate, and the certificate in writing of the Engineer-in-Charge shall be final and conclusive against the contractor with regard to any sum or sums payable to him under the provision of the clause</p>
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CLAUSE 28

Action where no specifications are specified	<p>In the case of any class of work for which there is no such specifications as referred to in Clause 11, such work shall be carried out in accordance with the Bureau of Indian Standards Specifications. In case there are no such specifications in Bureau of Indian Standards, the work shall be carried out as per manufacturers'</p>
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	specifications. In case there are no such specifications as required above, the work shall be carried out in all respects in accordance with the instructions and requirements of the Engineer-in-Charge
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CLAUSE 29

With-holding and lien in respect of sums due from contractor	<p>i. Whenever any claims for payment of a sum of money arises out of or under the contract or against the contractor, the Engineer-in-Charge or the AAI 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 Engineer-in-Charge or the AAI shall be entitled to withhold the security deposit 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 Engineer-in-Charge or the AAI shall be entitled to withhold and have lien to retain to the extent of such claimed amount or amounts referred to above from any sum or sums found payable or which may at any time thereafter become payable to the contractor under the same contract or any other contract with the Engineer-in Charge of the AAI or any contracting person through the Engineer-in-Charge pending finalization of adjudication of any such claim.</p> <p>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 Engineer-in- Charge or AAI will be kept withheld or retained as such by the Engineer-in- Charge or AAI till the claim arising out of or under the contract is determined by the arbitrator. (if the contract is 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 above 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 Engineer-in-Charge or the AAI 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.</p> <p>ii. AAI shall have the right to cause an audit and technical examination of the works and the final bills of the contractor including all supporting vouchers, abstract, etc., to be made after payment of the final bill and if as a result of such audit and technical examination any sum is found to have been overpaid in respect of any work done by contractor under the contract or any work claimed to have been done by the him under the contract and found not to have been executed, the contractor shall be liable to refund the amount of over payment and it shall be lawful for AAI to recover the same from him in the manner prescribed in sub-clause (i) of this clause or in any other manner legally permissible; and if it is found that the contractor was paid less than what was due to him under the</p>
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		<p>contract in respect of any work executed by him under it, the amount of such under payment shall be duly paid by AAI to the contractor, without any interest thereon whatsoever.</p> <p>Provided that the AAI shall not be entitled to recover any sum overpaid, nor the contractor shall be entitled to payment of any sum paid short where such payment has been agreed upon between the Executive Director Engineering / General Manager Engineering on the one hand and the contractor on the other under any term of the contract permitting payment for work after assessment by the Executive Director Engineering / General Manager Engineering</p>
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CLAUSE 29 A

	Lien in respect of claims in other Contracts	<p>i. Any sum of money due and payable to the contractor (including the security deposit refundable to him) under the contract may be withheld or retained by way of lien by the Engineer-in-Charge or the AAI or any other contracting person or persons through Engineer-in-Charge against any claim of the Engineer-in-Charge or AAI or such other person or persons in respect of payment of a sum of money arising out of or under any other contract made by the contractor with the Engineer-in-Charge or the AAI or with such other person or persons.</p> <p>ii. It is an agreed term of the contract that the sum of money so withheld or retained under this clause by the Engineer-in-Charge or the AAI will be kept withheld or retained as such by the Engineer-in-Charge or the AAI or till his claim arising out of the same contract or any other contract is either mutually settled or determined by the arbitration clause or by the competent court, as the case may be and that the 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.</p>
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CLAUSE 30

	Employment of coal mining or controlled area labour not permissible	<p>i. The contractor shall not employ coal mining or controlled area labour falling under any category whatsoever or in connection with the work or recruit labour from area within a radius of 32 km (20 miles) of the controlled area. Subject as above the contractor shall employ imported labour only i.e., deposit imported labour or labour imported by contractors from area, from which import is permitted.</p> <p>ii. Where ceiling price for imported labour has been fixed by State or Regional Labour Committees not more than that ceiling price shall be paid to the labour by the contractor.</p> <p>iii. The contractor shall immediately remove any labourer who may be pointed out by the Engineer-in-Charge as being a coal mining or controlled area labourer. Failure to do so shall render the contractor liable to pay to AAI a sum calculated at the rate of Rs.10/- per day per labourer. The certificate of the Engineer-in -Charge about the number of coal mining or controlled area labourer and the number of days for which</p>
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		<p>they worked shall be final and binding upon all parties to this contract.</p> <p>iv. It is declared and agreed between the parties that the aforesaid stipulation in this clause is one in which the public are interested within the meaning of the exception in Section 74 of Indian Contract Act, 1872.</p> <p>Explanation :- Controlled area mean the following areas: Districts of Dhanbad, Hazaribagh, Jamtara- Sub-Division under Santhal Pargana Commissionery, District of Bankuara, Birbhum, Burdwan, District of Bilaspur. Any other area which may be declared a Controlled Area by or with the approval of the Central Government</p>
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CLAUSE 31

	Unfiltered water supply	<p>The contractor(s) shall make his/their own arrangements for water required for the work and nothing extra will be paid for the same. This will be subject to the following conditions.</p> <p>i. That the water used by the contractor (s) shall be fit for construction purposes to the satisfaction of the Engineer-in-Charge.</p> <p>ii. The Engineer-in-Charge shall make alternative arrangements for supply of water at the risk and cost of contractor (s) if the arrangements made by the contractor (s) for procurement of water are in the opinion of the Engineer-in- Charge, unsatisfactory.</p>
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CLAUSE 31A

	Departmental water supply, if available	<p>Water if available may be supplied to the contractor by the department subject to the following conditions:-</p> <p>i. The water charges @1% shall be recovered on gross amount of the work done.</p> <p>ii. The contractor(s) shall make his/their own arrangement of water connection and laying of pipelines from existing main of source of supply.</p> <p>iii. The Department do not guarantee to maintain uninterrupted supply of water and it will be incumbent on the contractor (s) to make alternative arrangements for water at his/their own cost in the event of any temporary break down in the AAI's water main so that the progress of his/their work is not held up for want of water. No claim of damage or refund of water charges will be entertained on account of such break down</p>
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CLAUSE 32

	Alternate water arrangements	<p>i. Where there is no piped water supply arrangement and the water is taken by the contractor from the wells or hand pump constructed by the AAI, no charge shall be recovered from the contractor or that account. The contractor shall, however, draw water at such hours of the day that it does not interfere with the normal use for which the</p>
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		<p>hand pumps and well are intended. He will also be responsible for all damage and abnormal repairs arising out of his use, the cost of which shall be recoverable from him. The Engineer-in-Charge shall be the final authority to determine the cost recoverable from the contractor on this account and his decision shall be binding on the contractor.</p> <p>ii. The contractor shall be allowed to construct temporary wells in AAI land for taking water for construction purposes only after he has got permission of the Engineer-in-Charge in writing. No charges shall be recovered from the contractor on this account but the contractor shall be required to provide necessary safety arrangements to avoid any accidents or damage to adjacent buildings, roads and service lines. He shall be responsible for any accidents or damage caused due to construction and subsequent maintenance of the wells and shall restore the ground to its original condition after the wells are dismantled on completion of the work</p>
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CLAUSE 33

	<p>Return of Surplus materials</p>	<p>Notwithstanding anything contained to the contrary in this contract, where any materials for the execution of the contract are procured with the assistance of AAI either by issue from AAI stocks or purchase made under orders or permits or licenses issued by AAI, the contractor shall hold the said materials economically and solely for the purpose of the contract and not dispose of them without the written permission of the AAI and return, if required by the engineer-in-Charge, all surplus or unserviceable materials that may be left with him after the completion of the contract or at its termination for any reason whatsoever on being paid or credited such prices as the Engineer-in-Charge shall determine having due regard to the condition of the materials. The price allowed to the contractor however shall not exceed the amount charged to him excluding the element of storage charges. The decision of the Engineer-in-Charge shall be final and conclusive. In the event of breach of the aforesaid condition, the contractor shall in addition to throwing himself open to action for contravention of the terms of the license or permit and / or for criminal breach of trust, be liable to AAI for all moneys, advantages or profits resulting or which in the usual course would have resulted to him by reason of such breach</p>
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CLAUSE 34

	<p>Hire of plant & Machinery</p>	<p>i. The Contractor shall arrange at his own expense all tools, plant, machinery and equipment (hereinafter referred to as T&P) required for execution of the work except for the Plant & Machinery listed in Schedule 'C' and stipulated for issue to the contractor. If the contractor requires any item of T&P on hire from the T&P available with the AAI over and above the T&P stipulated for issue, the AAI will, if such item is available, hire it to the contractor at rates to be agreed upon between him and the Engineer-in-charge. In such a case, all the conditions hereunder for issue of T & P shall also be applicable to such T&P as is agreed to be issued.</p> <p>ii. Plant & Machinery when supplied on hire charges shown in Schedule 'C' shall be made over and taken back at the departmental equipment yard / shed shown in Schedule 'C' and the contractor</p>
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		<p>shall bear the cost of carriage from the place of issue to the site of work and back. The contractor shall be responsible to return the plant and machinery with condition in which it was handed over to him, and he shall be responsible for all damage caused to the said plant and machinery at the site of work or elsewhere in operation and otherwise during transit including damage to or loss of plant and for all losses due to his failure to return the same soon after the completion of the work for which it was issued. The Engineer in-charge shall be the sole judge to determine the liability of the contractor and its extent in this regard and his decision shall be final and binding on the contractor</p> <p>iii. The plant and machinery as stipulated above will be issued as and when available and if required by the contractor. The contractor shall arrange his programme of work according to the availability of the plant and machinery and no claim, whatsoever, will be entertained from him for any delay in supply by the department.</p> <p>iv. The hire charges shall be recovered at the prescribed rates from and inclusive of the date the plant and machinery made over upto and inclusive of the date of the return in good order even though the same may not have been working for any cause except major breakdown due to no fault of the contractor or faulty use requiring more than three working days continuously (excluding intervening holidays and Sundays) for bringing the plant in order. The contractor shall immediately intimate in writing to the Engineer in-charge when any plant or machinery gets out of order requiring major repairs as aforesaid. The Engineer in-charge shall record the date and time of receipt of such intimation in the log sheet of the plant or machinery. Based on this if the breakdown before lunch period or major breakdown will be computed considering half a day's breakdown on the day of complaint. If the breakdown occurs in the post lunch period of major breakdown will be computed starting from the next working day. In case of any dispute under this clause, the decision of the Executive Director (Engg) /General Manager (Engg) shall be final and binding on the contractor.</p> <p>v. The hire charges shown above are for each day of 8 hours (inclusive of the one hour lunch break) or part thereof.</p> <p>vi. Hire charges will include service of operating staff as required and also supply of lubricating oil and stores for cleaning purposes. Power fuel of approved type, firewood, kerosene oil etc. for running the plant and machinery and also the full time chowkidar for guarding the plant and machinery against any loss or damage shall be arranged by the contractor who shall be fully responsible for the safeguard and security of plant and machinery. The contractor shall on or before the supply of plant and machinery sign an agreement indemnifying the Department against any loss or damage caused to the plant and machinery either during transit or at site of work.</p> <p>vii. Ordinarily, no plant and machinery shall work for more than 8 hours a day inclusive of one hour lunch break. In case of an urgent work however, the Engineer incharge may, at his discretion, allow the plant and machinery to be worked for more than normal period of 8 hours a day. In that case, the hourly hire charges for overtime to be borne by the contractor shall be 50% more than the normal proportionate hourly charges (1/8th of the daily charges) subject to a minimum of half day's normal charges on any particular day. For</p>
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		<p>working out hire charges for over time, a period of half an hour and above will be charged as one hour and a period of less than half an hour will be ignored.</p> <p>viii. The contractor shall release the plant and machinery every seventh day for periodical servicing and / or wash out which may take about three to four hours or more. Hire charges for full day shall be recovered from the contractor for the day of servicing / wash out irrespective of the period employed in servicing.</p> <p>ix. The plant and machinery once issued to the contractor shall not be returned by him on account of lack of arrangements of labour and materials, etc. on his part, the same will be returned only when they are required for major repairs or when in the opinion of the Engineer in charge, the work or a portion of work for which the same was issued is completed.</p> <p>x. Log Book for recording the hours of daily work for each of the plant and machinery supplied to the contractor will be maintained by the Department and will be countersigned by the contractor or his authorised agent daily. In case the contractor contests the correctness of the entries and / or fails to sign the Log Book, the decision of the Engineer in charge shall be final and binding on him. Hire charges will be calculated according to the entries in the Log Book and will be binding on the contractor. Recovery on account of hire charges for road rollers shall be made for the minimum number of days worked out on the assumption that a roller can consolidate per day and maximum quantity of materials or area surfacing as noted against each in the annexed statement (see attached annexure).</p> <p>xi. In the case of concrete mixers, the contractors shall arrange to get the hopper cleaned and the drum washed at the close of the work each day or each occasion. (a) In case rollers for consolidation are employed by the contractor himself, log book for such rollers shall be maintained in the same manner as is done in case of departmental rollers, maximum quantity of any items to be consolidated for each roller day shall also be same as in Annexure to Clause 34(x). For less use of rollers, recovery for the less roller days shall be made at the stipulated issue rate.</p> <p>xii. The contractor shall be responsible to return the plant and machinery in the condition in which it was handed over to him and he shall be responsible for all damage caused to the said plant and machinery at the site of work or elsewhere in operation or otherwise or during transit including damage to or loss of parts, and for all losses due to his failure to return the same soon after the completion of the work for which it was issued. The Engineer in charge shall be the sole judge to determine the liability of the contractor and its extent in this regard and his decision shall be final and binding on the contractor.</p> <p>xiii. The contractor will be exempted from levy of any hire charges for the number of days he is called upon in writing by the Engineer in charge to suspend execution of the work, provided AAI's plant and machinery in question have, in fact, remained idle with the contractor because of the suspension.</p> <p>xiv. In the event of the contractor not requiring any item of plant and machinery issued by AAI though not stipulated for issue in Schedule 'C' any time after taking delivery at the place of issue, he may return</p>
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		<p>it after two days written notice or at any time without notice if he agrees to pay hire charges for two additional days without, in any way, affecting the right of the Engineer in charge to use the said plant and machinery during the said period of two days as he likes including hiring out to a third party</p>
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CLAUSE 35

	<p>Condition relating to use of asphaltic materials</p>	<p>i. The contractor undertakes to make arrangement for the supervision of the work by the firm supplying the tar or bitumen used.</p> <p>ii. The contractor shall collect the total quantity of tar or bitumen required for the work as per standard formula, before the process of painting is started and shall hypothecate it to the Engineer-in-Charge. If any bitumen or tar remains unused on completion of the work on account of lesser use of materials in actual execution of for reasons other than authorised changes of specifications and abandonment of portion of work, a corresponding deduction equivalent to the cost of unused materials as determined by the Engineer-in-Charge shall be made and the material return to the contractors. Although the materials are hypothecated to AAI, the contractor undertakes the responsibility for their proper watch, safe custody and protection against all risks. The materials shall not be removed from site of work without the consent of the Engineer-in-Charge in writing</p> <p>iii. The contractor shall be responsible for rectifying defects noticed within a year from the date of completion of the work and the portion of the security deposit relating asphaltic work shall be refunded after the expiry of this period.</p>
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CLAUSE 36

	<p>Employment of Technical Staff and employees</p>	<p>Contractors Superintendence, Supervision, Technical staff & Employees</p> <p>i. The contractor shall provide all necessary superintendence during execution of the work and all along thereafter as may be necessary for proper fulfilling of the obligations under the contract.</p> <p>The Contractor shall immediately after receiving letter of acceptance of the tender and before commencement of the work, intimate in writing to the Engineer-in-Charge, the name (s), qualifications experience, age, address (s) and other particulars along with certificates, of the principal technical representative to be charge of the work and other technical representative (s) who will be supervising the work. Minimum requirement of such technical representative (s) and their qualifications and experience shall not be lower than specified in schedule 'F". The Engineer-in-Charge shall within 3 days of receipt of such communication intimate in writing his approval or otherwise of such a representative (s) to the contractor. Any such approval may at any time be withdrawn and in case of such withdrawal, the contractor shall appoint another such representative (s) according to the provisions of this clause. Decision of the tender accepting authority shall be final and binding on the contractor in this respect. Such a principal technical representative and other technical representative (s) shall be appointed by the contractor soon after</p>
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		<p>receipt of the approval from Engineer-in-charge and shall be available at site before start of work.</p> <p>All the provisions applicable to the principal technical representative under the clause will also be applicable to other technical representative(s). The principal technical representative and other technical representative (s) shall be present at the site of work for supervision at all times when any construction activity is in progress and also present himself/themselves, as required to the Engineer-in-Charge and / or his designated representative to take instructions. Instructions given to the principal technical representative or other technical representative (s) shall be deemed to have the same force as if these have been given to the contractor. The Principal Technical Representative and other technical representatives shall be actually available at site fully during all stages of execution work, during recording / checking / test checking of measurements of works whenever so required by the Engineer-in-Charge and shall also note down instructions conveyed by the Engineer-in-Charge or his designated representative (s) in the site order book and shall affix his/their signature in token of noting down the instructions and in token of acceptance of measurements / checked measurements / test checked measurements. The representative (s) shall not look after any other work. Substitutes, duly approved by engineer – in-Charge of the work in similar manner as aforesaid shall be provided in event of absence of any of the representative (s) by more than two days. If the Engineer-in-Charge, whose decision in this respect is final and binding on the contractor, is convinced that no such technical representative (s) is/are effectively appointed or is/are effectively attending or fulfilling the provision of this clause, a recovery (non-refundable) shall be effected from the contractor as specified in Schedule 'F' and the decision of the Engineer-in-Charge as recorded in the site order book and measurement recorded checked/test checked in Measurement Books shall be final and binding on the contractor. Further if the contractor fails to appoint suitable technical Principal technical representative and / or other technical representative (s) and if such appointed persons are not effectively present or are absent by more than two days without duly approved substitute or do not discharge their responsibility satisfactorily, the Engineer-in-Charge shall have full powers to suspend the execution of the work until such date as suitable other technical representative (s) is / are appointed and the contractor shall be held responsible for the delay so caused to the work. The contractor shall submit a certificate of employment of the technical representative (s) (in the form of copy of Form- 16 or CPF deduction issued to the Engineer employed by him) along with every running account bill / final bill and shall produce evidence if at any times so required by the Engineer-in-Charge.</p> <p>ii. The contractor shall provide and employ on the site only such technical assistants as are skilled, and experienced in their respective fields and such foremen and supervisory staff as are competent to give proper supervision to the work. The contractor shall provide and employ skilled, semi-skilled and unskilled labour as is necessary for proper and timely execution of the work. The Engineer-in-Charge shall</p>
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		<p>be at liberty to object to and require the contractor to remove from the works any person who in his opinion misconducts himself, or is incompetent or negligent in the performance of his duties or whose employment is otherwise considered by the Engineer-in Charge to be undesirable. Such person shall not be employed again at works site without the written permission of the Engineer-in-Charge and the persons so removed shall be replaced as soon as possible by competent substitutes.</p> <p>iii. The contractor shall not change his engineer/supervisory staff after approval of the Engineer-In-Charge. If Contractor wants to replace any of his staff due to unavoidable circumstances, he will seek permission of Engineer-In- Charge indicating reasons for such change, qualification and experience of the alternative employee suggested by him. The qualification and experience of the alternative staff shall not be inferior to the person employed earlier</p>
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CLAUSE 37

	<p>Levy/ Taxes/ Royalty/ Land Licence fee payable by Contractor</p>	<p>1. Taxes:</p> <p>a. Rates to be quoted by the parties should be inclusive of all taxes, duties, CESS, fee, royalty charges etc. levied under any statute but exclusive of GST for all the items</p> <p>b. However GST, as applicable, shall be paid to the contractor, for any taxable supply / services / construction rendered by the agency to AAI, against a valid GST invoice as per terms and conditions of the contract.</p> <p>c. In case supplies /services / works involve imports; the same should be identified separately. Basic Custom Duty & IGST will be paid directly by AAI by utilizing EPCG license/ Duty Credit Scrip under service Export from India Scheme (SEIS) of Govt. of India</p> <p>2. Royalty:</p> <p>a. The contractor shall at his own expense, provide all materials required for the works other than those which are to be supplied by AAI. The contractor shall deposit royalty and obtain necessary permit for collection of stone, sand, red bajri, kankar etc. from the local authority in the matter and will abide by the notification issued by Central Govt. / State Government / Local State Authorities as applicable from time to time in this regard. The contractor is also bound to allow deduction from his bills any difference in statutory taxes/royalty and penalty proposed by Local State Authorities to AAI till finalization of settlement of all demands in this regard by Central / State Govt.</p> <p>b. This will also be applicable to forest produce.</p> <p>c. If pursuant to or under any law, notification or order any royalty, cess or the like becomes payable by the AAI and does not any time become payable by the contractor to the State Government. Local authorities in respect of any material used by the contractor in the works then in such a case, it shall be lawful to the AAI and it will have the right and be entitled to recover the amount paid in the circumstances as aforesaid from dues of the contractor.</p> <p>3. License fee for land</p> <p>a. Land/space (Paved/Unpaved/ Covered-AC or Non-AC), to the extent allotted to contractors during execution of work for the purpose of</p>
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		<p>installation of plants, labour campus, cement godown, site office, stacking of materials shall be provided at free of cost up to defect liability period/maintenance period.</p> <p>b. A Security deposit at the rate of Rs. 500/- per sqm in the form of DD/BG shall be deposited by the contractor. In case contractor do not deposit security deposit same shall be deducted from 1st Running Account Bill.</p> <p>c. Such security deposit shall be released only after allotted land has been fully vacated by the contractor to entire satisfaction of Engineer-in-Charge. If contractor fails to vacate the allotted land/space (Paved/Unpaved/Covered-AC/ Non-AC) after Defect Liability Period/maintenance Period of the work shall be charged as per prevailing licence fee of the airport plus 25% penalty over that.</p>
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CLAUSE 38

	<p>Conditions for reimbursement of levy/taxes if levied after receipt of tenders</p>	<p>1. Rates to be quoted by the parties should be inclusive of all taxes, duties, CESS, fee, royalty charges etc. levied under any statute applicable on last stipulated date of receipt of tender including extension if any but exclusive of GST. No adjustment i.e. increase or decrease shall be made for any variation in the rate of GSI Building and Other Construction Workers Welfare Cess or any tax, levy or Cess applicable on inputs.</p> <p>However, effect of variation, as per Govt. order after the last date of receipt of tender including extension if any, in rates of GST or Building and Other Construction Workers Welfare Cess or imposition or repeal of any other tax, levy or Cess applicable on output of the works contract shall be adjusted on either side, increase or decrease.</p> <p>Provided further that for Building and Other Construction Workers Welfare Cess or any tax (other than GST), levy or Cess varied or imposed after the last date of receipt of tender including extension if any, any increase shall be reimbursed to the contractor only if the contractor necessarily and properly pays such increased amount of taxes / levies / Cess.</p> <p>Provided further that such increase in tax / levy / Cess including GST shall not reimbursed if made in the extended period of contract for which the contractor alone is responsible for delay as determined by authority for extension of time under Clause 5 in Schedule F.</p> <p>2. The contractor shall keep necessary books of accounts and other documents for the purpose of this condition as may be necessary and shall allow inspection of the same by a duly authorised representative of AAI or the Engineer-in-Charge and further shall furnish such other information /document as the Engineer-in-Charge may require from time to time.</p> <p>3. The contractor shall, within a period of 30 days of the imposition</p>
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		of any such further tax or levy or Cess, give a written notice thereof to the Engineer-in-charge that the same is given pursuant to the condition, together with all necessary information / documents relating thereto.
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CLAUSE 39

	Termination of contract on death of contractor	Without prejudice to any of the rights or remedies under this contract, if the contractor dies, the Engineer-in-charge on behalf of the AAI shall have the option of terminating the contract without compensation to the contractor.
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CLAUSE 40

	If relative working in AAI then the contractor not allowed to tender.	<p>The contractor shall not be permitted to tender for works in AAI wherein his near relative is posted as an Officer responsible for award and execution of work. He shall also intimate the names of persons who are working with him in any capacity or / are subsequently employed by him and who are near relatives to any officer of AAI. Any breach of this condition by the Contractor would render him, the contract liable to be rejected at any stage.</p> <p>NOTE: By the term “near relatives” is meant wife, husband, parents and grand parents, children and grandchildren, brothers and sisters, uncles, aunts and cousins and their corresponding in-laws</p>
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CLAUSE 41

	No any officer in Department of Engineering to work as contractor within one year of retirement	Engineer or any officer employed in engineering or administrative duties in an engineering department of AAI shall not work as a contractor or employee of contractor for a period of one year after his retirement from AAI service without the prior permission of AAI in writing. This contract is liable to be cancelled if either the contractor or any of his employees is found at any time to be such a person who had not obtained the permission of AAI as aforesaid, before submission of the tender or engagement in the contractor’s service, as the case may be.
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CLAUSE 41(a)

	Integrity Pact and Independent External Monitor.	<p>Signing of Integrity Pact (As per Appendix XVIII) is mandatory for every bidder/contractor if provided so in Schedule F. All tenderers shall have to submit an undertaking as per Appendix XVIII along with tender documents. AAI shall appoint Independent External Monitor(s) to oversee effective implementation of Integrity Pact for such works/supplies. For this purpose, a panel of Independent External Monitors shall be constituted by the Authority in concurrence with Central Vigilance Commission (CVC).</p> <p>i. The Contractor/Supplier shall have to act in accordance with the conditions laid down in the integrity pact.</p> <p>a. Signing of Integrity Pact is mandatory for every Bidder/Contractor in this procurement/bid process the signed original pact to be send to the office of Bid Manager</p>
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		<p>and should reach before the due date mentioned in NIT.</p> <p>b. The Bidder/contractor shall commit itself to ensure taking 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 as specified in section 3 of the integrity pact.</p> <p>c. Any breach of the aforesaid provisions by the Bidder or any one employed by it or acting on its behalf (whether with or without the knowledge of the Bidder) shall entitle the authority to take all or any one of the action as specified in section 6 of the integrity pact.</p> <p>ii. In case any violation of above conduct is established, AAI reserves right to take following actions.</p> <p>a. If contractor commits a violation of its commitments and obligations under the Integrity Pact Program during bidding process, he shall be liable for disqualification from tender process and forfeiture of his Earnest Money Deposit/ Bid Security.</p> <p>b. In case of violation of the Integrity Pact after award of the contract, Authority is entitled to terminate the contract and shall be entitled to demand and recover from the contractor damages equivalent to 5% of the contract value or the amount equivalent to Security Deposit or Performance Bank Guarantee, whichever is higher.</p> <p>c. Authority may initiate appropriate proceedings against the contractor.</p> <p>d. Contractor will be liable to pay damages as determined by the Authority.</p> <p>e. Contractor against whom an action for violation of its commitments and obligations has been taken earlier again commits a violation, the Authority is entitled to debar such contractor for future tender/ contract processes for a period as deemed fit.</p> <p>f. A violation is considered to have occurred if the Authority is fully satisfied with the available documents and evidence submitted along- with Independent External Monitor's recommendations / suggestions that no reasonable doubt exist in the matter</p>
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CLAUSE 41(b)

	<p>Code of Integrity</p>	<p>No official of AAI or a bidder shall act in contravention of the codes which includes;</p> <p>i) prohibition of</p> <p>a) making offer, solicitation or acceptance of bribe, reward or gift or any material benefit, either directly or indirectly, in exchange for an unfair advantage in the procurement process or to otherwise influence the procurement process.</p> <p>b) any omission, or misrepresentation that may mislead or attempt to mislead so that financial or other benefit may be obtained or an obligation avoided.</p> <p>c) any collusion, bid rigging or anticompetitive behaviour that may impair the transparency, fairness and the progress of the procurement process.</p>
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		<p>d) improper use of information provided by the procuring entity to the bidder with an intent to gain unfair advantage in the procurement process or for personal gain.</p> <p>e) any financial or business transactions between the bidder and any official of the procuring entity related to tender or execution process of contract; which can affect the decision of the procuring entity directly or indirectly.</p> <p>f) any coercion or any threat to impair or harm, directly or indirectly, any party or its property to influence the procurement process.</p> <p>g) obstruction of any investigation or auditing of a procurement process.</p> <p>h) making false declaration or providing false information for participation in a tender process or to secure a contract;</p> <p>ii) disclosure of conflict of interest.</p> <p>iii) Disclosure by the bidder of any previous transgressions made in respect of the provisions of sub-clause (i) with any entity in any country during the last three years or of being debarred by any other procuring entity.</p>
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CLAUSE 42

	<p>Return of material and recovery for excess material issued.</p>	<p>i. After completion of the work and also at any intermediate stage in the event of non-reconciliation of materials issued, consumed and in balance – (see Clause 10), Theoretical quantities of materials issued by the AAI for use in the work shall be calculated on the basis and method given hereunder;</p> <p>a. Quantity of cement & bitumen shall be calculated on the basis of quantity of cement & bitumen required for different items of work as shown in the Schedule 'F' of Rates mentioned in Schedule 'F'. In case any item is excluded for which standard co-efficient for the consumption of cement & bitumen are not available in the above mentioned schedule / specification or cannot be derived from the same shall be calculated on the basis of standard formula to be laid down by the Engineer-in-Charge.</p> <p>b. Theoretical quantity of steel reinforcement or structural steel sections shall be taken as quantity required as per design or as authorised by Engineer-in-Charge, including authorised lappages shall be plus 5% wastage due to cutting into pieces, such theoretical quantity being determined and compared with the actual issued quantity meter-wise, section wise and category wise.</p> <p>c. Theoretical quantity of G.I. & C.I. or other pipes, conduits, wires and sheets of galvanized iron and G.I. / M.S. sheets shall be taken as quantity actually required and measures plus 5% for wastage due to cutting into pieces (except in the case of G.I./M.S. sheets it shall be plus 10%), such determination & comparison being made diameter wise & categorywise.</p> <p>d. For any other material as per actual requirements.</p> <p>ii. Over the theoretical quantities of materials so computed a variation shall be allowed as specified in Schedule 'F'. The difference in the net quantities of material actually issued to the contractor and the theoretical quantities including such authorised variation, if not</p>
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		<p>returned by the contractor or if not fully reconciled to the satisfaction of the Engineer-in-Charge within fifteen days of the date of written notice by the Engineer-in-Charge to this effect shall be covered at the rates specified in Schedule 'F', without prejudice to the provision of the relevant conditions regarding return of materials governing the contract. Decision of Engineer-in-Charge regarding theoretical quantities of materials, which should have been actually used as per the Annexure of the standard schedule of rates and recovery at rates specified in Schedule 'F' shall be final and binding on the contractor. For non scheduled items, the decision of the Engineer - in - charge regarding theoretical quantities of materials which should have been actually used, shall be final and binding on the contractor.</p> <p>g. The said action under this clause shall be without prejudice to the right of the AAI to take action against the contractor under any other conditions of contract in doing the work according to the prescribed specifications.</p> <p>h. For materials brought by the contractor for use in item of work at site, similar theoretical consumption shall be prepared and submitted to the Engineer-in-Charge for verification. If it is found that material consumed in the work is less than the theoretical consumption after taking into account permissible minus variation, the recovery for corresponding material shall be effected as per rates specified in schedule 'F' under Clause 42</p>
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CLAUSE 43

	<p>Compensation during warlike situations / act of terrorism</p>	<p>The work (whether fully constructed or not) and all materials, machines, tools and plants scaffolding, temporary buildings and other things connected therewith shall be at the risk of the contractor until the work has been delivered to the Engineer-in-Charge and a certificate from him to that effect obtained. In the event of the work or any materials properly brought to the site for incorporation in the work being damaged or destroyed in consequence of hostilities or warlike operation or act of terrorism, the contractor shall when ordered (in writing) by the Engineer-in-Charge to remove any debris from the site, collect and properly stack or remove in store all serviceable materials salvaged from the damaged work and shall be paid at the contract rates in accordance with the provision of this agreement for the work of clearing the site of debris, stacking or removal of serviceable material and for reconstruction of all works ordered by the Engineer- in-Charge, such payments being in addition to compensation upto the value of the work original executed before being damaged or destroyed and not paid for. In case of works damaged or destroyed but not already measured and paid for, the compensation shall be assessed by the Engineer-in charge upto Rs.5,000/- and by the Executive Director Engg. concerned for a higher amount. The contractor shall be paid for the damages / destruction suffered and for restoring the material at the rate based on analysis of rates tendered for in accordance with the provision of the contract. The certificate of the Engineer-in- Charge regarding the quality and quantity of materials and the purpose for which they were collected shall be final and binding on all parties to this contract.</p>
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		<p>Provided always that no compensation shall be payable for any loss in consequence of hostilities or warlike operation (a) unless the contractor had taken all such precautions against air raid as are deemed necessary by the A.R.P. Officers or the Engineer-in- Charge (b) for any material etc. not on the site of the work or for any tools plant, machinery, scaffolding, temporary building and other things not intended for the work.</p> <p>In the event of the contractor having to carry out reconstruction as aforesaid, he shall be allowed such extension of time for its completion as is considered reasonable by the Engineer – in – charge.</p>
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CLAUSE 44

	Apprentices Act provisions to be complied with	<p>The contractor shall comply with the provisions of the Apprentices Act, 1961 and the rules and orders issued thereunder from time to time. If he fails to do so, his failure will be a breach of the contract and the Executive Director Engg. / General Manager (Engg.) may, in his discretion, cancel the contract. The contractor shall also be liable for any pecuniary liability arising on account of any violation by him of the provisions of the said Act.</p>
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CLAUSE 45

	Release of security deposit after labour clearance	<p>Security Deposit of the work shall not be refunded till the contractor produces a clearance certificate from the Labour Officer. As soon as the work is virtually complete the contractor shall apply for the clearance certificate to the Labour Officer under intimation to the Engineer-in-Charge. The Engineer-in-Charge, on receipt of the said communication, shall write to the Labour Officer to intimate if any complaint is pending against the contractor in respect of the work. If no complaint is pending, on record till after 3 months after completion of the work and / or no communication is received from the Labour Officer to this effect till six months after the date of completion, it will be deemed to have received the clearance certificate and the Security Deposit will be released if otherwise due</p>
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CLAUSE 46

	Contractor's Liability and Insurance of Works	<p>i. From commencement to completion of the Works, the Contractor shall take full responsibility for the case thereof and for taking precautions to prevent loss or damage and to minimize loss or damage to the greatest extent possible and shall be liable for any damage or loss that may happen to the Works or any part thereof and all AA I's T & P from any cause whatsoever (save and except the Excepted Risks) and shall at his own cost repair and make good the same so that at completion, the Works and all AA I's T & P shall be in good order and condition and in conformity in every respect with the requirements of the Contract and instructions of the Engineer-in-Charge.</p> <p>ii. In the event of any loss or damage to the Works or any Part thereof or to any T & P, to any material or articles at the Site from any of the Excepted Risks the following provisions shall have effect:</p>
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		<p>a. The Contractor shall, as may be directed in writing by the Engineer-in- Charge, remove from the Site any debris and so much of the works as shall have been damaged, taking to AAI's store such AAI's T & P, articles and/or materials as may be directed;</p> <p>b. The contractor shall, as may be directed in writing by the Engineer-in- Charge, proceed with the erection and completion of the Works under and in accordance with the provisions and Conditions of the Contract; and</p> <p>iii. Provided always that the Contractor shall not be entitled to payment under the above provisions in respect of so much loss or damage as has been occasioned by any failure on his part to perform his obligation under the Contract or not taking precautions to prevent loss or damage or minimize the amount of such loss or damage.</p> <p>iv. Without limiting its obligations and responsibilities under other clauses of General Conditions of Contracts, the contractor at his own cost shall insure, in the joint name of AAI and the contractor, against all losses or damages from whatever cause, arising (other than the accepted risks) for which he is responsible under the terms of the contract and in such manner that the AAI and the contractor are covered during the period of construction of works and any loss or damage occasioned by the contractor in the course of any operation carried out by them for the purpose of complying with its obligations of defects liability clause hereof;</p> <p>a. All works including temporary works to their full value executed from time to time.</p> <p>b. The construction materials and equipments to their full value brought on to the site by the contractor.</p> <p>v. The Contractor shall indemnify and keep indemnified AAI against all losses and claims for injuries or damage to any persons or any property whatsoever which may arise out of or in consequence of the construction and maintenance of Works and against all claims, demands proceedings, damage costs, charges and expenses whatsoever in respect of or in relation thereto.</p> <p>vi. Before commencing execution of the work, the Contractor shall, without in any way limiting his obligations and responsibilities under this condition, insure at his own cost against any damage, loss or injury which may occur to any AAI property, or to any person for at least the minimum amount of Rs. 1.00 lakh with unlimited number of occurrences (including any employee of AAI) by or arising out of carrying out of the Contract.</p> <p>vii. The contractor shall at all times indemnify AAI against all claims, damages or compensation under the provisions of Payment or Wages Act, 1936 Minimum Wages Act, 1948, Employer's Liability Act, 1938, the Workmen's Compensation Act, 1923, Industrial Disputes Act, 1947 and the Maternity Benefit Act, 1961 or any modifications thereof or any other law relating thereto and rules made there under from time to time or as a consequence of any accident or injury to any workman or other persons in or about the Works, whether in the employment of the Contractor or not, his agents or servants, and also against all costs, charges and expenses of any suit, action or proceedings arising out of such accident or injury and against all sum or sums which may with the consent of</p>
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		<p>the Contractor be paid to compromise or compound any claim. Without limiting his obligations and liabilities as above provided, the Contractor shall insure against all claims, damages or compensation payable under the Workmen's Compensation Act, 1923 or any modification thereof or any other law relating thereto.</p> <p>viii. All insurance mentioned above shall be effected with any subsidiary of the General Insurance Company of India or by a company approved by the Insurance Regulatory Authority of India.</p> <p>ix. The aforesaid insurance policy / policies shall provide that they shall not be cancelled till the Engineer-in-Charge has agreed to their cancellation in writing.</p> <p>x. The Contractor shall prove to the Engineer-in-Charge from time to time that he has taken out all the insurance policies referred to above and has paid the necessary premiums for keeping the policies alive till expiry of the Defects Liability Period. A self-certified copy of such policies is required to be submitted to the Engineer-in-charge.</p> <p>xi. The Contractor shall ensure that similar insurance policies are taken out by his subcontractors (if any) and shall be responsible for any claims or losses to AAI resulting from their failure to obtain adequate insurance protection in connection thereof. The contractor shall produce or cause to be produced by his subcontractor (if any) as the case may be, the relevant policy or policies and premiums receipts as and when required by the Engineer-in-Charge. A self-certified copy of such policies is required to be submitted to the Engineer-in-charge.</p> <p>xii. If the Contractor and/or his subcontractor (if any) shall fail to effect and keep in force the insurance referred to above or any other insurance which he/they may be required to effect under the terms of the Contract then and in any such case AAI may, without being bound to, effect and keep in force any such insurance and pay such premium or premiums as may be necessary for that purpose and from time to time deduct the amount so paid by AAI from any moneys due or which may become due to the Contractor or recover the same as a debt due from the Contractor.</p> <p>xiii. In case contractor takes Contractor All Risk (CAR) Policy in joint name of AAI and Contractor for full tendered value along with third party liability (max of 10% of tendered value or as applicable as per Insurance Regulatory Authority of India) then there is no requirement for taking separate insurance by sub-contractors. However, workmen compensation policy is required to be taken separately by main contractor and sub-contractor for workers employed by them</p>
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CLAUSE 47

	<p>Composite Contract and responsibilities of main agency</p>	<p>i. The tenders have been called for composite work consisting of civil construction and other associated specialized works. The pre-qualification criteria shall be applicable for each subhead of work independently. The agency meeting PQ</p>
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		<p>criteria for the main work shall be considered for execution of composite work. However the agency shall be allowed to execute only those specialized subheads of works for which bidder meet PQ criteria individually.</p> <p>ii. The main contractor shall be permitted to execute only those works (covered under one or more subhead) for which he meets all requirements of pre-qualification including financial, technical and technological requirement specified in the PQ criteria.</p> <p>iii. Main contractor will associate expert agencies for the execution of specialized works under various subheads for which he himself has failed to meet PQ criteria. In such case he will appoint his associate for the execution of each specialized work with the approval of the NIT approving authority. The main contractor shall intimate the names of only those agencies who fully meet the PQ criteria for each specialized work for the acceptance of the department.</p> <p>iv. Main contractor shall not be permitted to change their associate agencies in the course of execution of work. If change of agency is inevitable then a request shall be submitted to the engineer-in-charge in writing giving full justification for change of agency. The proposal should include name of the alternate agency along with his financial, technical capabilities and work experience in the appropriate field. Such change shall be allowed only after receiving approval from the competent authority.</p>
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	<p>Composite contract-Tripartite agreement</p>	<p>This clause is applicable for the works for which the estimated cost put to tender is more than Rs.500.00 crores.</p> <p>i. The main contractor shall finalise his rates, terms and conditions and mode of execution of work with specialised agencies for all works covered in various subhead of works on receipt of work order but specifications, preferred makes of materials and performance of system shall remain as specified in tender document.</p> <p>ii. The main contractor shall arrange an agreement between department, main contractor and associated agencies for all subheads on receipt of work order from the engineer-in-charge. Main contractor and expert agency shall be jointly responsible for quality of work and performance of the system.</p> <p>iii. Main contractor shall submit list of associated agency for each specialized work within 1/12th of stipulated completion period or within one month from issue of work order whichever is later along with documentary evidence for financial soundness, technical capabilities and their experience for executing similar specialized works along with his application seeking acceptance for the name of associated agency. Approval / rejection for the name of associated agency shall be accorded thereafter by NIT approving authority within a period of 15 days each subhead wise.</p> <p>iv. The main contractor shall submit duly signed tripartite agreement on the format provided by AAI within 2/12th of stipulated completion period or 60 days whichever is later for acceptance and signature of department. The extension of time for signing of this</p>
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		agreement shall not be generally permitted. The signing time shall only be extended if handing over of site is delayed due to reasons beyond control of the contractor.
	Conditions of composite contract	<ul style="list-style-type: none"> i. Main contractor shall be responsible for submission of earnest money. ii. The mobilization advance shall be paid to main contractor as per terms and conditions of contract and indicated under Clause 10 B. The first installment of mobilization advance shall be corresponding to the value of work which shall be executed by the main contractor. The subsequent mobilization advances corresponding to value of work covered in each subhead shall be released on signing of each Tripartite Agreement with expert agency for the same. iii. The security deposit shall be deducted from the running bills of main contractor after adjustment of full earnest money. iv. Main contractor shall be responsible for completion of work as per time schedule indicated in the NIT. The compensation for the delay shall be levied on the main contractor only. v. The coordination meetings called by AAI or its representative shall be attended by associated expert agencies as and when required. Expert agency shall be responsible for technical soundness, quality of work and adherence to tender specifications. The main contractor as well as associated agency shall be responsible for rectification of deficiencies noticed in specialized work
	Payment Conditions for Composite Contract	<ul style="list-style-type: none"> i. It will be the responsibility of main contractor to finalize expert agencies for the execution of works covered under all subheads of NIT and get the tripartite agreements signed as per NIT requirement at an early date. The main contractor shall not be paid for value of work covered under second running bill & subsequent bills till all Tripartite Agreements are signed by all agencies concerned. ii. The main contractor must fill the ratio of work which shall govern the ratio of direct payment to the expert agency and to the main contractor for each subhead of work in schedule F. This ratio may also be indicated in tripartite agreement. Thus direct payment to each expert agency shall be released in the same ratio from the net payment (after all deductions). iii. The running bill for specialized work shall be processed as per terms and conditions of the contract. All deductions like security deposit, income tax and part rate for incomplete work or due to any other reason shall be made as per contract conditions from each running bill. In case the ratio as desired under (ii) is not filled by the main contractor AAI will make payment of 75% of the net payable amount to the expert agency directly and balance 25% shall be paid to the main contractor

Clause 48

Escrow Account	<p>i. All payments for the works estimated cost more than Rs.500 Cr shall be made only through Escrow Account opened by the contractor. However for works costing less than Rs.500 Cr., it shall be at the discretion of Technical Sanctioning authority to opt for Escrow account or not. The bank charges for Escrow Account shall be borne by contractor. The detailed conditions of Escrow Account shall be drawn in consultation with associated bank.</p> <p>ii. Mobilization advance for mobilization of resources and purchase of plant & machinery shall be credited directly to the escrow account opened for this contract through bank transfer as per terms and condition of contract. The agency shall be able to utilize 25% (or as decided by TS authority) of each installment of mobilization advance to meet minor expenses like construction of site office, purchase of office equipment and other minor works, while release of balance 75% fund shall be regulated by the department. The contractor shall seek prior concurrence of Engineer-in Charge for release of payment to the supplier etc. through Escrow Account by the Bank. Funds against cheque issued by contractor shall be released by Bank on receipt of written consent from Engineer-in Charge.</p> <p>iii. Payment received and credited against each RA Bill, can be utilized 25% directly by the contractor for minor expenses like salary, stationary, office expenses etc. AAI shall exercise control for release of payment by contractor for balance 75%.</p> <p>iv. The Contractor shall submit his proposal to the Engineer-in-Charge/Authority for utilization of funds made available by AAI (75% against each RA bill)</p> <ol style="list-style-type: none">Name of agency for whom payment is proposed to be released.Details of work executed / material supplied by agency to whom he intends to release payment.Nature of advance payment if any, has to be released to the supplier for supply of material for the project only.Documentary evidence in support of his claim. <p>v. Engineer -in-charge will examine and approve full / part of such payments as per agency's request within maximum of three working days. The terms and condition of Escrow Account shall be finalized with bank according to terms and conditions of contract. Bank shall release payment against such cheques only after written consent of authorised officer of AAI is received.</p> <p>vi. Contractor shall be permitted to close Escrow Account on receipt of final payment for the work/project or on receipt of letter for foreclosure of work by the AAI. All balances and liabilities against this Escrow Account shall be left at the disposal of the contractor</p>
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Note : In case of difference or ambiguity in Hindi and English version anywhere, the English version will prevail.

AIRPORTS AUTHORITY OF INDIA

SAFETY CODE

1. Suitable Scaffolds should be provided for workmen for all works that cannot safely be done from the ground, or from solid construction except such short period work as can be done safely from ladders. When a ladder is used, an extra mazdoor shall be engaged for holding the ladder and if the ladder is used for carrying materials as well suitable footholds and hand-hold shall be provided on the ladder and the ladder shall be given an inclination not steeper than $\frac{1}{4}$ to 1 ($\frac{1}{4}$ horizontal and 1 vertical).
2. Scaffolding of staging more than 3.6m (12ft.) above the ground or floor, swung or suspended from an overhead support or erected with stationary support shall have a guard rail properly attached or bolted, braced and otherwise secured at least 90 cm. (3ft.) high above the floor or platform of such scaffolding on staging and extending along the entire length of the outside and ends thereof with only such opening as may be necessary for the delivery of materials. Such scaffolding or staging shall be so fastened as to prevent it from swaying from the building or structure.
3. Working platforms, gangways and stairways should be so constructed that they should not sag unduly or unequally, and if the height of the platform or the gangway or the stairway is more than 3.6 m (12ft.) above ground level or floor level, they should be closely boarded, should have adequate width and should be suitably fastened as described in (2) above.
4. Every opening in the floor of a building or in a working platform shall be provided with suitable means to prevent the fall of person or materials by providing suitable fencing or railing whose minimum height shall be 90 cm.(3ft.)
5. Safe means of access shall be provided to all working platforms and other working places. Every ladder shall be securely fixed. No portable single ladder shall be over 9m. (30ft.) in length while the width between side rails in rung ladder shall in no case be less than 29 cm. (11 $\frac{1}{2}$ ") for ladder upto and including 3m. (10ft.) in length. For long ladders, this width should be increased at least $\frac{1}{4}$ " for each additional 30cm. (1 foot) of length. Uniform step spacing of not more than 30cm shall be kept. Adequate precautions shall be taken to prevent danger from electrical equipment. No materials on any of the site or work shall be so stacked or placed as to cause danger or inconvenience to any person or the public. The contractor shall provide all necessary fencing and lights to protect the public from accident and shall be bound to bear the expenses of defence of every suit, action or other proceedings at law that may be brought by any person for injury sustained owing to neglect of the above precautions and to pay any damages and cost which may be awarded in any such suit, action or proceedings to any such person on which may, with the consent of the contractor, be paid to compensate any claim by any such person.
6. a. Excavation and Trenching – All trenches 1.2 m. (4ft.) or more in depth, shall at all times be supplied with at least one ladder for each 30m. (100ft.) in length or fraction thereof, Ladder shall extend from bottom of the Trench to at least 90cm (3fts) above the surface of the ground. The side of the trenches which are 1.5 m. (5 ft.) or more in depth shall be stepped back to give suitable slope or securely held by timber bracing, so as to avoid the danger of sides collapsing. The excavated material shall not be placed within 1.5 m. (5 ft.) of the edges of the trench or half of the depth of the trench whichever is more. Cutting shall be done from top to bottom. Under no circumstances, undermining or undercutting shall be done.

- b. Safety Measures for digging bore holes: -
- i. If the bore well is successful, it should be safely capped to avoid caving and collapse of the bore well. The failed and the abandoned ones should be completely refilled to avoid caving and collapse;
 - ii. During drilling, Sign boards should be erected near the site with the address of the drilling contractor and the Engineer-in-charge of the work;
 - iii. Suitable fencing should be erected around the well during the drilling and after the installation of the rig on the point of drilling, flags shall be put 50 Mtr all around the point of drilling to avoid entry of people/animals;
 - iv. After drilling the bore well, a cement platform (0.50 Mtr x 0.50 Mtr x 1.20 Mtr) 0.60 Mtr above ground level and 0.60 Mtr below ground level should be constructed around the well casing;
 - v. After the completion of the bore well, the contractor should cap the bore well properly by welding steel plate, cover the bore well with the drilled wet soil and fix thorny shrubs over the soil. This should be done even while repairing the pump;
 - vi. After the bore well is drilled the entire site should be brought to the ground level;
7. Demolition – Before any demolition work is commenced and also during the progress of the work, i) All roads and open areas adjacent to the work site shall either be closed or suitably protected. ii) No electric cable or apparatus which is liable to be a source of danger or a cable or apparatus used by the operator shall remain electrically charged. iii) All practical steps shall be taken to prevent danger to persons employed from risk of fire or explosion or flooding. No floor, roof or other part of the building shall be so overloaded with debris or materials as to render it unsafe.
8. All necessary personal safety equipment as considered adequate by the Engineer-in-Charge should be kept available for the use of the person employed on the site and maintained in a condition suitable for immediate use, and the contractor should take adequate steps to ensure proper use of equipment by those concerned. The following safety equipment shall invariably be provided.
- i) Workers employed on mixing asphaltic materials, cement and lime mortars shall be provided with protective footwear and protective goggles.
 - ii) Those engaged in white washing and mixing or stacking of cement bags or any material which is injurious to the eyes shall be provided with protective goggles.
 - iii) Those engaged in welding works shall be provided with welder's protective eye-shields.
 - iv) Stone breaker shall be provided with protective goggles and protective clothing and seated at sufficiently safe intervals.
 - v) When workers are employed in sewers and manholes, which are in active use, the contractors shall ensure that the manhole covers are opened and ventilated at least for an hour before the workers are allowed to get into the manholes, and the manholes so opened shall be cordoned off with suitable railing and provided with warning signals or boards to prevent accident to the public. In addition, the contractor shall ensure that the following safety measures are adhered to:-
 - a) Entry for workers into the line shall not be allowed except under supervision of the Sr. Superintendent (Engg.) or any other higher officer.
 - b) At least 5 to 6 manholes upstream and downstream should be kept open for at least 2 to 3 hours before any man is allowed to enter into the manhole for working inside.
 - c) Before entry, presence of toxic gases should be tested by inserting wet lead acetate paper which changes colour in the presence of such gases and gives indication of their presence

- d) d) Presence of Oxygen should be verified by lowering a detector lamp into the manhole. In case, no Oxygen is found inside the sewer line, workers should be sent only with oxygen kit.
- e) Safety belt with rope should be provided to the workers. While working inside the manholes, such rope should be handled by two men standing outside to enable him to be pulled out during emergency.
- f) The area should be barricaded or condoned off by suitable means to avoid mishaps of any kind. Proper warning signs should be displayed for the safety of the public whenever cleaning works are undertaken during night or day.
- g) No smoking or open flames shall be allowed near the blocked manhole being cleaned.
- h) The malba obtained on account of cleaning of blocked manholes and sewer lines should be immediately removed to avoid accidents on account of slippery nature of the malba.
- i) Workers should not be allowed to work inside the manhole continuously. He should be given rest intermittently. The Engineer-in-Charge may decide the time upto which a worker may be allowed to work continuously inside the manhole.
- j) Gas masks with Oxygen Cylinder should be kept at site for use in emergency.
- k) Air-blowers should be used for flow of fresh air through the manholes. Whenever called for, portable air blowers are recommended for ventilating the manholes. The Motors for these shall be vapour proof and of totally enclosed type. Non sparking gas engines also could be used but they should be placed at least 2 meters away from the opening and on the leeward side protected from wind so that they will not be a source of friction on any inflammable gas that might be present.
- l) The workers engaged for cleaning the manholes / sewers should be properly trained before allowing to work in the manhole.
- m) The workers shall be provided with Gumboots or non-sparking shoes bump helmets and gloves non sparking tools safety lights and gas masks and portable air blowers (when necessary). They must be supplied with barrier cream for anointing the limbs before working inside the sewer lines.
- n) Workmen descending a manhole shall try each ladder stop or rung carefully before putting his full weight on it to guard against insecure fastening due to corrosion of the rung fixed to manhole well.
- o) If a man has received a physical injury, he should be brought out of the sewer immediately and adequate medical aid should be provided to him.
- p) The extent to which these precautions are to be taken depend on individual situation but the decision of the Engineer-in-Charge regarding the steps to be taken in this regard in an individual case will be final.
- vi) The Contractor shall not employ men and women below the age of 18 years on the work of painting with products containing lead in any form. Wherever men above the age of 18 are employed on the work of lead painting, the following precaution should be taken:- a) No paint containing lead or lead products shall be used except in the form of paste or readymade paint. b) Suitable face masks should be supplied for use by the workers when paint is applied in the form of spray or a surface having lead paint is dry rubbed and scrapped. c) Overall shall be supplied by the contractors to the workmen and adequate facilities shall be provided to enable the working painters to wash during and on the cessation of work

9. An additional clause (viii)(i) of AAI Safety Code (iv) the Contractor shall not employ women and men below the age of 18 on the work of painting with product containing

lead in any form, wherever men above the age of 18 are employed on the work of lead painting, the following principles must be observed for such use:

- i) White lead, sulphate of lead or product containing these pigment, shall not be used in painting operation except in the form of pastes or paint ready for use.
 - ii) Measures shall be taken, wherever required in order to prevent danger arising from the application of a paint in the form of spray
 - iii) Measures shall be taken, wherever practicable, to prevent danger arising out of from dust caused by dry rubbing down and scraping.
 - iv) Adequate facilities shall be provided to enable working painters to wash during and on cessation of work.
 - v) Overall shall be worn by working painters during the whole of working period.
 - vi) Suitable arrangement shall be made to prevent clothing put off during working hours being spoiled by painting materials.
 - vii) Cases of lead poisoning and suspected lead poisoning shall be notified and shall be subsequently verified by medical man appointed by competent authority of AAI.
 - viii) AAI may require, when necessary medical examination of workers.
 - ix) Instructions with regard to special hygienic precautions to be taken in the painting trade shall be distributed to working painters
10. When the work is done near any place where there is risk of drowning, all necessary equipments should be provided and kept ready for use and all necessary steps taken for prompt rescue of any person in danger and adequate provision, should be made for prompt first aid treatment of all injuries likely to be obtained during the course of the work.
11. Use of hoisting machines and tackle including their attachments, anchorage and supports shall conform to the following standards or conditions:
- i) These shall be of good mechanical construction, sound materials and adequate strength and free from patent defects and shall be kept repaired and in good working order. (b) Every rope used in hoisting or lowering materials or as a means of suspension shall be of durable quality and adequate strength, and free from patent defects.
 - ii) Every crane driver or hoisting appliance operator shall be properly qualified and no person under the age of 21 years should be in charge of any hoisting machine including any scaffolding winch or give signals to operator.
 - iii) In case of every hoisting machine and of every chain ring hook, shackle swivel and pulley block used in hoisting or as means of suspension, the safe working load shall be ascertained by adequate means. Every hoisting machine and all gear referred to above shall be plainly marked with the safe working load. In case of a hoisting machine having a variable safe working load each safe working load and the condition under which it is applicable shall be clearly indicated. No part of any machine or any gear referred to above in this paragraph shall be loaded beyond the safe working load except for the purpose of testing.
 - iv) In case of departmental machines, the safe working load shall be notified by the Electrical Engineer-in-Charge. As regards contractor's machines the contractors shall notify the safe working load of the machine to the Engineer-in-Charge whenever he brings any machinery to site of work and get it verified by the electrical Engineer concerned.
12. Motors, gearing, transmission, electric wiring and other dangerous parts of hoisting appliances should be provided with efficient safeguards. Hoisting appliances should be provided with such means as will reduce to the minimum the risk of accidental descent of the load. Adequate precautions should be taken to reduce to the minimum the risk of

any part of a suspended load becoming accidentally displaced. When workers are employed on electrical installations which are already energized, insulating mats, wearing apparel, such as gloves, sleeves and boots as may be necessary should be provided. The worker should not wear any rings, watches and carry keys or other materials which are good conductors of electricity.

13. All scaffolds, ladders and other safety devices mentioned or described herein shall be maintained in safe condition and no scaffold, ladder or equipment shall be altered or removed while it is in use. Adequate washing facilities should be provided at or near places of work
14. These safety provisions should be brought to the notice of all concerned by display on a notice board at a prominent place at work spot. The person responsible for compliance of the safety code shall be named therein by the contractor.
15. To ensure effective enforcement of the rules and regulations relating to safety precautions the arrangements made by the contractor shall be open to inspection by the Labour Officer or Engineer-in- Charge of the department or their representatives.
16. Notwithstanding the above clauses from (1) to (15), there is nothing in these to exempt the contractor from the operations of any other Act or Rules in force in the Republic of India

**MODEL RULES FOR THE PROTECTION OF
HEALTH AND SANITARY ARRANGEMENTS FOR WORKERS
EMPLOYED BY AAI OR ITS CONTRACTORS**

1. APPLICATION

These rules shall apply to all buildings and construction works in charge of AAI in which twenty or more workers are ordinarily employed or are proposed to be employed in any day during the period during which the contract work is in progress.

2. DEFINITION

Work place means a place where twenty or more workers are ordinarily employed in connection with construction work on any day during the period during which the contract work is in progress.

3. FIRST-AID FACILITIES

- i) At every work place, there shall be provided and maintained, so as to be easily accessible during working hours, first-aid boxes at the rate of not less than one box for 150 contract labour or part thereof ordinarily employed.
- ii) The first-aid box shall be distinctly marked with a red cross on white background and shall contain the following equipment.
 - a) For work places in which the number of contract labour employed does not exceed 50 Each first –aid box shall contain the following equipments:
 - 1. 6 small sterilized dressings
 - 2. 3 medium size sterilized dressings
 - 3. 3 large size sterilized dressings
 - 4. 3 large sterilized burn dressings
 - 5. 1 (30 ml) bottle containing a two per cent alcoholic solution of iodine.
 - 6. 1 (30 ml) bottle containing salvolatile having the dose and mode of administration indicated on the label.
 - 7. 1 snakebite lancet.
 - 8. 1 (30 gms) bottle of potassium permanganate crystals.
 - 9. 1 pair scissors.
 - 10. 1 copy of the first-aid leaflet issued by the Director General, Factory Advice Service and Labour Institute, Government of India.
 - 11. 1 bottle containing 100 tablets (each of 5 gms) of aspirin.
 - 12. Ointment for burns.
 - 13. A bottle of suitable surgical antiseptic solution.
 - b) For work places in which the number of contract labour exceed 50. Each first-aid box shall contain the following equipments.
 - 1. 12 small sterilized dressings.
 - 2. 6 medium size sterilized dressings.
 - 3. 6 large size sterilized dressings
 - 4. 6 large size sterilized burn dressings.
 - 5. 6 (15 gms) packets sterilized cotton wool.
 - 6. 1 (60 ml). Bottle containing two per cent alcoholic solution iodine.
 - 7. 1 (60 ml) bottle containing salvolatile having the dose and mode of administration indicated on the label.
 - 8. 1 roll of adhesive plaster.
 - 9. 1 snake bite lancet.
 - 10. 1 (30 gms) bottle of potassium permanganate crystals.
 - 11. 1 pair scissors.
 - 12. 1 copy of the first-aid leaflet issued by the Director General Factory Advice Service and Labour Institute / Government of India.
 - 13. A bottle containing 100 tablets (each of 5 gms) of aspirin
 - 14. Ointment for burns. 15. A bottle of suitable surgical antiseptic solution.

- iii) Adequate arrangements shall be made for immediate recoument of the equipment when necessary.
- iv) Nothing except the prescribed contents shall be kept in the First-aid box.
- v) The first-aid box shall be kept in charge of a responsible person who shall always be readily available during the working hours of the work place.
- vi) A person in charge of the First-aid box shall be a person trained in First-aid treatment in the work places where the number of contract labour employed is 150 or more.
- vii) In work places where the number of contract labour employed is 500 or more and hospital facilities are not available within easy distance from the works. First-aid posts shall be established and run by a trained compounder. The compounder shall be on duty and shall be available at all hours when the workers are at work.
- viii) Where work places are situated in places which are not towns or cities, a suitable motor transport shall be kept readily available to carry injured person or person suddenly taken ill to the nearest hospital.

4. DRINKING WATER

- i) In every work place, there shall be provided and maintained at suitable places, easily accessible to labour, a sufficient supply of cold water fit for drinking.
- ii) Where drinking water is obtained from an intermittent public water supply, each work place shall be provided with storage where such drinking water shall be stored.
- iii) Every water supply or storage shall be at a distance of not less than 50 feet from any latrine drain or other source of pollution. Where water has to be drawn from an existing well which is within such proximity of latrine, drain or any other source of pollution, the well shall be properly chlorinated before water is drawn from it for drinking. All such wells shall be entirely closed in and be provided with a trap door which shall be dust and waterproof.
- iv) A reliable pump shall be fitted to each covered well, the trap door shall be kept locked and opened only for cleaning or inspection which shall be done at least once a month.

5. WASHING FACILITIES

- i) In every work place adequate and suitable facilities for washing shall be provided and maintained for the use of contract labour employed therein.
- ii) Separate and adequate cleaning facilities shall be provided for the use of male and femal workers.
- iii) Such facilities shall be conveniently accessible and shall be kept in clean and hygienic condition.

6. LATRINES AND URINALS

- i) Latrines shall be provided in every work place on the following scale namely:
 - a) Where female are employed, there shall be at least one latrine for every 25 females.
 - b) Where males are employed, there shall be at least one latrine for every 25 males.
- ii) Provided that, where the number of males or females exceeds 100, it shall be sufficient if there is one latrine for 25 males or females as the case may be upto the first 100, and one for every 50 thereafter.
- iii) Every latrine shall be under cover and so partitioned off as to secure privacy, and shall have a proper door and fastenings.
- iv) Construction of latrines: The inside walls shall be constructed of masonry or some suitable heat-resisting nonabsorbent materials and shall be cement washed inside and outside at least once a year, Latrines shall not be of a standard lower than borehole system

- v) (a) Where workers of both sexes are employed, there shall be displayed outside each block of latrine and urinal, a notice in the language understood by the majority of the workers "For Men only" or "For Women Only" as the case may be.
(b) The notice shall also bear the figure of a man or of a woman, as the case may be.
- vi) There shall be at least one urinal for male workers upto 50 and one for female workers upto fifty employed at a time, provided that where the number of male or female workmen, as the case may be exceeds 500, it shall be sufficient if there is one urinal for every 50 males or females upto the first 500 and one for every 100 or part thereafter.
- vii) (a) The latrines and urinals shall be adequately lighted and shall be maintained in a clean and sanitary condition at all times.
(b) Latrines and urinals other than those connected with a flush sewage system shall comply with the requirements of the Public Health Authorities.
- viii) Water shall be provided by means of tap or otherwise so as to be conveniently accessible in or near the latrines and urinals.
- ix) Disposal of excreta: Unless otherwise arranged for by the local sanitary authority, arrangements for proper disposal of excreta by incineration at the work place shall be made by means of a suitable incinerator. Alternately excreta may be disposed of by putting a layer of night soil at the bottom of a pucca tank prepared for the purpose and covering it with a 15 cm. Layer of waste or refuse and then covering it with a layer of earth for a fortnight (when it will turn to manure).
- x) The contractor shall at his own expense, carry out all instructions issued to him by the Engineer-in-Charge to effect proper disposal of night soil and other conservancy work in respect of the contractor's workmen or employees on the site. The contractor shall be responsible for payment of any charges which may be levied by Municipal or Cantonment Authority for execution of such on his behalf.

7. PROVISION OF SHELTER DURING REST

At every place there shall be provided, free of cost, four suitable sheds, two for meals and the other two for rest separately for the use of men and women labour. The height of each shelter shall not be less than 3 meters (10 ft.) from the floor level to the lowest part of the roof. These shall be kept clean and the space provided shall be on the basis of 0.6 sq.m. (6 sft) per head. Provided that the Engineer-in-Charge may permit subject to his satisfaction, a portion of the building under construction or other alternative accommodation to be used for the purpose.

8. CRECHES

- i) At every work place, at which 20 or more women workers are ordinarily employed, there shall be provided two rooms of reasonable dimensions for the use of their children under the age of six years. One room shall be used as a play room for the children and the other as their bedroom. The rooms shall be constructed with specifications as per clause 19 H (ii) a, b & c.
- ii) The rooms shall be provided with suitable and sufficient openings for light and ventilation. There shall be adequate provision of sweepers to keep the places clean.
- iii) The contractor shall supply adequate number of toys and games in the play room and sufficient number of cots and beddings in the bed room.
- iv) The contractor shall provide one ayah to look after the children in the crèche when the number of women workers does not exceed 50 and two when the number of women workers exceed 50.
- v) The use of the rooms earmarked as crèches shall be restricted to children, their attendants and mothers of the children

9. CANTEENS

- i) In every work place where the work regarding the employment of contractor labour is likely to continue for six months and where in contract labour numbering one hundred or more are ordinarily employed, an adequate canteen shall be provided by the contractor for the use of such contract labour.
- ii) The canteen shall be maintained by the contractor in an efficient manner.
- iii) The canteen shall consist of at least a dining hall, kitchen, storeroom, pantry and washing places separately for workers and utensils.
- iv) The canteen shall be sufficiently lighted at all times when any person has access to it.
- v) The floor shall be made of smooth and impervious materials and inside walls shall be lime washed or colour washed at least once in each year. Provided that the inside walls of the kitchen shall be lime washed every four months.
- vi) The premises of the canteen shall be maintained in a clean and sanitary condition.
- vii) Waste water shall be carried away in suitable covered drains and shall not be allowed to accumulate so as to cause a nuisance.
- viii) Suitable arrangements shall be made for the collection and disposal of garbage.
- ix) The dining hall shall accommodate at a time 30 per cent of the contract labour working at a time.
- x) The floor area of the dining hall, excluding the area occupied by the service counter and any furniture except tables and chairs shall not be less than one square metre (10 sft) per diner to be accommodated as prescribed in sub-Rule (ix).
- xi) (a) A portion of the dining hall and service counter shall be partitioned off and reserved for women workers in proportion to their number.
(b) Washing places for women shall be separate and screened to secure privacy.
- xii) Sufficient tables stools, chairs or benches shall be available for the number of diners to be accommodated as prescribed in sub-Rule (ix).
- xiii) (a) 1. There shall be provided and maintained sufficient utensils crockery, furniture and any other equipment necessary for the efficient running of the canteen.
2. The furniture utensils and other equipment shall be maintained in a clean and hygienic condition.
(b) 1. Suitable clean clothes for the employees serving in the canteen shall be provided and maintained.
2. A service counter, if provided, shall have top of smooth and impervious material.
3. Suitable facilities including an adequate supply of hot water shall be provided for the cleaning of utensils and equipments.
- xiv) The food stuffs and other items to be served in the canteen shall be in conformity with the normal habits of the contract labour.
- xv) The charges for food stuffs, beverages and any other items served in the canteen shall be based on 'No Profit, No loss' and shall be conspicuously displayed in the canteen.
- xvi) In arriving at the price of foodstuffs, and other article served in the canteen, the following items shall not be taken into consideration as expenditure namely :-
 - a) The rent of land and building.
 - b) The depreciation and maintenance charges for the building and equipments provided for the canteen.
 - c) The cost of purchase, repairs and replacement of equipments including furniture, crockery, cutlery and utensils.
 - d) The water charges and other charges incurred for lighting and ventilation.
 - e) The interest and amounts spent on the provision and maintenance of equipments provided for the canteen.
- xvii) The accounts pertaining to the canteen shall be audited once every 12 months by registered accountants and auditors

10. ANTI-MALARIAL PRECAUTIONS

The contractor shall at his own expense, conform to all anti-malarial instructions given to him by the Engineer-in-Charge including the filling up of any borrow pits which may have been dug by him.

- 11.** The above rules shall be incorporated in the contracts and in notices inviting tenders and shall form an integral part of the contracts.

12. AMENDMENTS

AAI may, from time to time, add to or amend these rules and issue directions - it may consider necessary for the purpose of removing any difficulty which may arise in the administration thereof

AIRPORTS AUTHORITY OF INDIA
Contractor's Labour Regulations

1. SHORT TITLE

These regulations may be called the AAI Contractors Labour Regulations.

2. DEFINITIONS

i) Workman means any person employed by AAI or its contractor directly or indirectly through a subcontractor with or without the knowledge of the AAI to do any skilled, semiskilled or unskilled manual, supervisory, technical or clerical work for hire or reward, whether the terms of employment are expressed or implied but does not include any person:- a) Who is employed mainly in a managerial or administrative capacity: or b) Who, being employed in a supervisory capacity draws wages exceeding five hundred rupees per mensem or exercises either by the nature of the duties attached to the office or by reason of powers vested in him, functions mainly of managerial nature : or c) Who is an out worker, that is to say, person to whom any article or materials are given out by or on behalf of the principal employers to be made up cleaned, washed, altered, ornamental finished, repaired adopted or otherwise processed for sale for the purpose of the trade or business of the principal employers and the process is to be carried out either in the home of the out worker or in some other premises, not being premises under the control and management of the principal employer. No person below the age of 18 years shall be employed to act as a workman.

ii) Fair Wages means wages whether for time or piece work fixed and notified under the provisions of the Minimum Wages Act from time to time.

iii) Contractors shall include every person who undertakes to produce a given result other than a mere supply of goods or articles of manufacture through contract labour or who supplies contract labour for any work and includes a subcontractor.

iv) Wages shall have the same meaning as defined in the Payment of Wages Act. 3.

3. i) Normally working hours of an adult employee should not exceed 9 hours a day. The working day shall be so arranged that inclusive of interval for rest, if any, it shall not spread over more than 12 hours on any day.

ii) When an adult worker is made to work for more than 9 hours on any day or for more than 48 hours in any week, he shall be paid over time for the extra hours put in by him at double the ordinary rate of wages.

iii) a) Every worker shall be given a weekly holiday normally on a Sunday, in accordance with the provisions of the Minimum Wages (Central) Rules 1960 as amended from time to time irrespective of whether such worker is governed by the Minimum Wages Act or not.

b) Where the minimum wages prescribed by the Central/State Government under the Minimum Wages Act are not inclusive of the wages for the weekly day of rest, the worker shall be entitled to rest day wages at the rate applicable to the next preceding day, provided he has worked under the same contractor for a continuous period of not less than 6 days.

c) Where a contractor is permitted by the Engineer-in-Charge to allow a worker to work on a normal weekly holiday, he shall grant a substituted holiday to him for the whole day on one of the five days immediately before or after the normal weekly holiday and pay wages to such worker for the work performed on the normal weekly holiday at overtime rate.

4. DISPLAY OF NOTICE REGARDING WAGES ETC.

The contractor shall before he commences his work on contract, display and correctly maintain and continue to display and correctly maintain in a clear and legible condition in conspicuous places on the work, notices in English and in the local Indian languages spoken by the majority of the workers giving the minimum rates of wages fixed under Minimum Wages Act, the actual wages being paid, the hours of work for which such wage are earned, wages periods, dates of payments of wages and other relevant information as per Appendix' VIII'.

5. PAYMENT OF WAGES

- i) The contractor shall fix wage periods in respect of which wages shall be payable.
- ii) No wage period shall exceed one month.
- iii) The wages of every person employed as contract labour in an establishment or by a contractor where less than one thousand such persons are employed shall be paid before the expiry of seventh day and in other cases before the expiry of tenth day after the last day of the wage period in respect of which the wages are payable.
- iv) Where the employment of any worker is terminated by or on behalf of the contractor the wages earned by him shall be paid before the expiry of the second working day from the date on which his employment is terminated.
- v) All payment of wages shall be made on a working day at the work premises and during the working time and on a date notified in advance and in case the work is completed before the expiry of the wage period, final payment shall be made within 48 hours of the last working day.
- vi) Wages due to every worker shall be paid to him direct or to other person authorised by him in this behalf.
- vii) All wages shall be paid in current coin or currency or in both.
- viii) Wages shall be paid without any deductions of any kind except those specified by the Central Government by general or special order in this behalf or permissible under the Payment of Wages Act 1956.
- ix) A notice showing the wages period and the place and time of disbursement of wages shall be displayed at the place of work and a copy sent by the contractor to the Engineer-in-Charge under acknowledgement.
- x) It shall be the duty of the contractor to ensure the disbursement of wages in the presence of the Senior Superintendent Engg or authorised representative of the Engineer-in-Charge who will be required to be present at the place and time of disbursement of wages by the contractor to workmen.
- xi) The contractor shall obtain from Engineer in charge or the authorised representative of the Engineer-in-Charge a certificate under his signature at the end of the entries in the "Register of Wages" or the "Wage-cum-Muster Roll" as the case may be in the following form: "Certified that the amount shown in column No. has been paid to the workman concerned in my presence onat" "

Note: In case of payment of wages paid through bank, the contractor shall submit a copy of bank statement for relevant period duly signed by him.

6. FINES AND DEDUCTIONS WHICH MAY BE MADE FROM WAGES

- i) The wages of a worker shall be paid to him without any deduction of any kind except the following:
 - a) Fines
 - b) Deductions for absence from duty i.e. from the place or the places where by the terms of his employment he is required to work. The amount of deduction shall be in proportion to the period for which he was absent.
 - c) Deduction for damage to or loss of goods expressly entrusted to the employed person for custody, or for loss of money or any other deduction which he is required

to account, where such damage or loss is directly attributable to his neglect or default.

d) Deduction for recovery of advances or for adjustment of overpayment of wages, advances granted shall be entered in a register.

e) Any other deduction which the Central Government may from time to time allow.

- ii) No fines should be imposed on any worker save in respect of such acts and omissions on his part as have been approved of by the Chief Labour Commissioner. Note: An approved list of Acts and Omissions for which fines can be imposed is enclosed at Appendix-XII
- iii) No fine shall be imposed on a worker and no deduction for damage or loss shall be made from his wages until the worker has been given an opportunity of showing cause against such fines or deductions.
- iv) The total amount of fine which may be imposed in any one wage period on a worker shall not exceed an amount equal to three paise in a rupee of the total wages, payable to him in respect of that wage period.
- v) No fine imposed on any worker shall be recovered from him by installment, or after the expiry of sixty days from the date on which it was imposed.
- vi) Every fine shall be deemed to have been imposed on the day of the act or omission in respect. of which it was imposed.

7. LABOUR RECORDS

- i) The contractor shall maintain a Register of persons employed on work on contract in Form XIII of the CL(R&A) Central Rules 1971 (Appendix VI)
- ii) The contractor shall maintain a Muster Roll register in respect of all workmen employed by him on the work under Contract in Form XVI of the CL (R&A) Rules 1971 (Appendix VII).
- iii) The contractor shall maintain a Wage Register in respect of all workmen employed by him on the work under contract in Form XVII of the CL (R&A) Rules 1971 (Appendix VIII)
- iv) Register of accident - The contractor shall maintain a register of accidents in such form as may be convenient at the work place but the same shall include the following particulars : (a) Full particulars of the labourers who met with accident. (b) Rate of Wages (c) Sex (d) Age (e) Nature of accident and cause of accident (f) Time and date of accident (g) Date and time when admitted in Hospital (h) Date of discharge from the Hospital (i) Period of treatment and result of treatment (j) Percentage of loss of earning capacity and disability as assessed by Medical officer (k) Claim required to be paid under Workmen's Compensation Act. (l) Date of payment of compensation (m) Amount paid with details of the person to whom the same was paid (n) Authority by whom the compensation was assessed. (o) Remarks
- v) The contractor shall maintain a Register of Fines in the Form XII of the CL(R&A) Rules 1971 (Appendix-XIII). The contractor shall display in a good condition and in a conspicuous place of work the approved list of acts and omissions for which fines can be imposed (Appendix-XII)
- vi) The contractor shall maintain a Register of deductions for damage or loss in Form XX of the CL (R&A) Rules 1971 (Appendix-XIV)
- vii) The contractor shall maintain a Register of Advances in Form XXIII of the CL (R&A) Rules 1971 (Appendix-XV)
- viii) The contractor shall maintain a Register of Overtime in Form XXIII of the CL (R&A) Rules 1971 (Appendix-XVI).

8. ATTENDANCE CARD-CUM-WAGE SLIP

- i) The contractor shall issue an Attendance card-cum-wage slip to each workman employed by him in the specimen form at (Appendix-IX)
- ii) The card shall be valid for each wage period.
- iii) The contractor shall mark the attendance of each workman on the card twice each day, once at the commencement of the day and again after the rest interval, before he actually starts work.
- iv) The card shall remain in possession of the worker during the wage period under reference
- v) The contractor shall complete the wage slip portion on the reverse of the card at least a day prior to the disbursement of wages in respect of the wage period under reference.
- vi) The contractor shall obtain the signature or thumb impression of the worker on the wage slip at the time of disbursement of wages and retain the card with himself.

9. EMPLOYMENT CARD

- i) The contractor shall issue an Employment Card in Form XIV of the CL (R&A) Central Rules 1971 to each worker within three days of the employment of the worker (Appendix-X).

10. SERVICE CERTIFICATE

On termination of employment for any reason whatsoever the contractor shall issue to the workman whose services have been terminated, a Service certificate in Form XV of the CL(R&A) Central Rules 1971.

11. PRESERVATION OF LABOUR RECORDS

All records required to be maintained under Regulations Nos. 6 & 7 shall be preserved in original for a period of three years from the date of last entries made in them and shall be made available for inspection by the Engineer-in-Charge or Labour Officer or any other officers authorised by the Ministry of Urban Development in this behalf.

12. POWER OF LABOUR OFFICER TO MAKE INVESTIGATIONS OR ENQUIRY

The Labour Officer or any person authorised by Central Government on their behalf shall have power to make enquiries with a view to ascertaining and enforcing due and proper observance of Fair Wage Clauses and the Provisions of these Regulations. He shall investigate into any complaint regarding the default made by the contractor or subcontractor in regard to such provision.

13. REPORT OF LABOUR OFFICER

The Labour Officer or other persons authorised as aforesaid shall submit a report of result of his investigation or enquiry to the Engineer-in-Charge concerned indicating the extent, if any, to which the default has been committed with a note that necessary deductions from the contractor's bill be made and the wages and other dues be paid to the labourers concerned. In case an appeal is made by the contractor under Clause 13 of these regulations, actual payment to labourers will be made by the Engineer-in-Charge after G.M. Engg. has given his decision on such appeal.

- (i) Engineer-in-Charge shall arrange payments to the labour concerned within 45 days from the receipt of the report from the Labour Officer or the G.M. Engineer as the case may be.

14. APPEAL AGAINST THE DECISION OF LABOUR OFFICER

Any person aggrieved by the decision and recommendations of the Labour Officer or other person so authorised may appeal against such decision to the Engineer-in-Charge concerned within 30 days from the date of decision, but subject to such appeal, the decision of the officer shall be final and binding upon the contractor.

15. PROHIBITION REGARDING REPRESENTATION THROUGH LAWYER

- i) A workman shall be entitled to be represented in any investigation or enquiry under these regulations by :
 - a) An officer of a registered trade union of which he is a member.
 - b) An officer of a federation of trade unions to which the trade union referred to in Clause (a) is affiliated.
 - c) Where the employer is not a member of any registered trade union, by an officer of a registered trade union, connected with the industry in which the worker is employed or by any other workman employed in the industry in which the worker is employed.
- ii) An employer shall be entitled to be represented in any investigation or enquiry under these regulations by :
 - a) An officer of an association of employers of which he is a member.
 - b) An officer of a federation of associations of employers to which association referred to in Clause (a) is affiliated.
 - c) Where the employers is not a member of any association of employers, by an officer of association of employer connected with the industry in which the employer is engaged or by any other employer, engaged in the industry in which the employer is engaged.
- iii) No party shall be entitled to be represented by a legal practitioner in any investigation or enquiry under these regulations.

16. INSPECTION OF BOOKS AND SLIPS

The contractor shall allow inspection of all the prescribed labour records to any of his workers or to his agent at a convenient time and place after due notice is received or to the Labour Officer or any other person, authorised by the Central Government on his behalf .

17. SUBMISSION OF RETURNS

The contractor shall submit periodical returns as may be specified from time to time.

18. AMENDMENTS

The Central Government/AAI may from time to time add to or amend the regulations and on any question as to the application/interpretation or effect of those regulations the decision of the General Manager (Engg.) concerned shall be final

**FORM OF BANK GUARANTEE IN LIEU OF SECURITY DEPOSIT & AMOUNT WITHHELD
AGAINST COMPENSATION FOR DELAY IN INDIVIDUAL CONTRACT
(on Non-Judicial Stamp Paper of Rs.100/-)**

[Refer Clause 1A and 2B]

**To
The Airports Authority of India**

.....
.....

1. In consideration of the Airport Authority of India having its head office at New Delhi [hereinafter called the "AAI" which expression shall unless repugnant to the subject or context include its administrator, successors and assigns) having agreed under the terms and condition of Contract Agreement No.dated.....made between.....and AAI in connection with the work of(hereinafter called the said contract) to accept Deed of Guarantee as herein provided for Rs.....(Rupees.....only) from a Nationalized Bank in lieu of the Security deposit to be made by the contractor or lieu of the amount withheld towards compensation for delay pending final extension of time to be made from the contractors contained in the said Contractor. We, the.....bank (hereinafter referred to as "the said Bank" and having our registered office atdo hereby undertake and agree to identify and keep indemnified AAI from time to time to the extent of Rs.....(Rupees.....only) against any loss or damage, cost,, charges and expenses caused to or suffered by or that may be caused to or suffered by AAI by reason of any breach or breaches by the said Contractor of any of the terms and condition contained in the said contract and to unconditionally pay the amount claimed by AAI on demand and without demur to the extent aforesaid.

2. We Bank, further agree that AAI shall be the sole judge of and as to whether the said Contractor has committed any breach or breaches of any of the terms and conditions of the said contract and the extent of loss, damage, costs, charges and expenses caused to or suffered by or that may be caused to or suffered by AAI on account thereof and the decision of AAI that the said Contractor has committed such breach and breaches and as to the amount or amounts of loss, damage, costs, charges and expenses caused to or suffered of that may be caused to or suffered by AAI from time to time shall be final and binding on us.

3. We, the said Bank, 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 contracts and till all the dues of AAI under the said contract or by virtue of any of the terms and conditions governing the said contract including compensation for delay if any as decided by AAI, have been fully paid and its claims satisfied or discharged and till the Accepting Authority of the contract certifies that the terms and condition and accordingly Contract have been fully and properly carried out by the said contractor and accordingly discharges this guarantee subject, however that AAI shall have no claim under this Guarantee after 90(Ninety) days from the date of expiry of the defects Liabilities periods or Final /Extension of Time grated by AAI as provided available in agreements clause no.....as provided in the said Contract, i.e.....(date) or from the date of cancellation of the said contract, as the case may be, unless a notice of the claim under this Guarantee has been served on the Bank before the expiry of the period in which case the same shall be enforceable against the Bank notwithstanding the fact, that the same is enforced after the expiry of the said period.

4. AAI shall have the fullest liberty without affecting in any way the liability of the bank under this Guarantee or Indemnity from time to time to vary any of the terms and conditions of the said contract or to extend time of performance by the said Contractor or to postpone for any time and form time to time any of the powers exercisable by it against the said Contractor and either to enforce or forbear from enforcing any of terms and conditions governing the said contract or securities available to AAI and the said Bank shall not be released from its liability under these present by any exercise by AAI of any liberty with reference to the matters aforesaid or by reason of time being given to the said contractor or any other forbearance, act or omission on the part by AAI or any indulgence by AAI to the said Contractor or any other matter or thing whatsoever which under the law relating to sureties would but for this provision have the effect of so releasing the Bank from its such liability.

5. It shall not be necessary for AAI to proceed against the contractor before proceeding against the Bank and the Guarantee herein contained shall be enforceable against the Bank, notwithstanding any security which AAI may have obtained or obtain from the Contractor at the time when proceedings are taken against the Bank hereunder be outstanding or unrealized.

6. We, the said Bank, lastly undertake not to revoke this Guarantee during its currency except with the previous consent of AAI in writing and agree that any charge in the Constitution of the said Contract or the said Bank shall not discharge our liability hereunder.

In presence of

Dated this _____ Day of _____

WITNESS

1.

2.

For and on behalf of (The Bank)

Signature _____

Name & Designation _____

Authorisation No. _____

Name & Place _____

Bank's Seal _____

The above Guarantee is accepted by Airports Authority of India.

For and on behalf of Airports Authority of India

Signature _____

Name _____

Designation _____

Dated _____

Note:

***For Proprietary Concerns**

Sh. _____ son of _____ resident of _____ carrying on business under the name and style of _____ at _____ (hereinafter called "the said Contractor" which expression shall unless the context requires otherwise include his heirs, executors, administrators and legal representatives).

For Partnership Concerns

1. Sh. _____ son of _____ resident of _____ A- 178
2. Sh. _____ son of _____ resident of _____
carrying on business in co-partnership under the name and style of _____ at _____
(hereinafter collectively called “the said contractor” which expression shall unless the context
requires otherwise include each of them and their respective heirs, executors administrators
and legal representatives).

For Companies

M/s _____ a Company registered under the Companies Act, 1956 and having its
registered office in the State of (Hereinafter called “the said Contractor” which expression shall
unless the context requires otherwise include its administrators, successors and assigns).

APPENDIX-II

PROFORMA FOR MANDATORY TESTS TO BE ATTACHED WITH RUNNING ACCOUNT BILLS

Name of work:..... Name of Contractor.....

Contract Agreement No. and Date..... R/A Bill No.....

Sl. No.	Item	Quantities as per Agreement	Frequency as per Specification	No. of Tests Required	Upto date Quantity	No. of Tests Required	No. of Tests actually done	Remarks
1	2	3	4	5	6	7	8	9

Note: If the number of tests done are less than required, then reasons shall be recorded.

Signature of Sudt. (Engg)

Signature of Engineer-in-Charge.

Signature of Manager / AM (Engg)

REGISTER OF MATERNITY BENEFITS (Clause 19 F)

Name and address of the contractor

Name and location of the work.....

Name of the employee	Father's/husband's name	Nature of employment	Period of actual employment	Date on which notice of confinement given
1	2	3	4	5

Date on which maternity leave commenced and ended

Date of delivery/miscarriage	<u>In case of delivery</u>		<u>In case of delivery</u>	
	Commenced	Ended	Commenced	Ended
6	7	8	9	10

Leave Pay paid to the employee

<u>In case of delivery</u>	<u>In case of miscarriage</u>		Remark	
Rate of leave pay	Amount paid	Rate of leave pay		Amount paid
11	12	13	14	15

**SPECIMEN FORM OF THE REGISTER, REGARDING MATERNITY BENEFIT ADMISSION TO
THE CONTRACTOR'S LABOUR IN
AIRPORTS AUTHORITY OF INDIA WORKS(CLAUSE 19F)**

Name and address of the contractor -----

Name and location of the work -----

- 1) Name of the woman and her husband's name
- 2) Designation
- 3) Date of appointment
- 4) Date with months and years in which she is employed.
- 5) Date of discharge/dismissal, if any
- 6) Date of production of certificates in respect of pregnancy.
- 7) Date on which the woman informs about the expected delivery.
- 8) Date of delivery/miscarriage/death.
- 9) Date of production of certificate in respect of delivery/miscarriage.
- 10) Date with the amount of maternity/death benefit paid in advance of expected delivery
- 11) Date with amount of subsequent payment of maternity benefit
- 12) Name of the person nominated by the woman to receive the payment of the maternity benefit after the death.
- 13) If the woman dies, the date of her death, the name of the person to whom maternity benefit amount was paid, the month thereof and the date in the register.
- 14) Signature of the contractor authenticating entries in the register.
- 15) Remarks column for the use of Inspection Officer.

Labour Board

Name of work
Name of Contractor-----
-----Address of Contractor -----

Name and address of A. A. I. Division -----

Name of A. A. I. Labour Officer -----

Address of A. A. I. Labour Officer -----

Name of A.A.I Labour Officer-----

Sl.No.	Category	Minimum wage fixed	Actual wage paid	Number present	Remark
Weekly holiday -----					
Wage period -----					
Date of payment of wages -----					
Working hours -----					
Rest interval-----					

Form-XIII

APPENDIX-VI

[See rule 2(1)]

[Part-A: For all Establishments]

Register of Workmen Employed by Contractor

Name and address of contractor.....

Name and address of establishment which contractor is carried on.....

Name and location of work.....

Name and address of Principal Employer.....

Name of the Establishment-----Name of Owner-----LIN-----

Sl. No.	Employee Code	Name	Surname	Gender	Father's/Spouse Name	Date of Birth#	Nationality	Education Level	Date of	Designation
1	2	3	4	5	6	7	8	9	10	11

Category Address *(HS/S/SS/U	Type of Employment	Mobile	UAN	PAN	ESIC IP	LWF	AADHAAR	Bank A/c Numbe	Bank	Branch (IFSC	Present Address	Permanent
12	1	14	15	16	17	18	19	20	21	22	23	24

Servie Book No.	Date of Exit	Reason for Exit	Mark of Identification	Photo	Specimen Signature/Thum	Remarks
25	26	27	28	29	30	31

*(Highly Skilled/Skilled/Semi Skilled/Un Skilled)

#Note: In case the age is between 14 to 18 years, mention the nature of work, daily hours of work and Intervals of rest in the remarks Column.

GCC- 108

Form-XVI
[See Rule 78 (1) (a) (i)]

Muster Roll

Name and address of contractor.....

Name and address of establishment which contractor is carried on.....

Name and location of work.....

Name and address of Principal Employer.....For the month of fortnight.....

Sl. 1	Name of work Man 2	Sex 3	Father's/ Husband's 4	Date					Remark
				1	2	3	4	5	

FORM B
 [See Rule 78 (1) (a) (i)]
APPENDIX-VIII

FORMAT FOR WAGE REGISTER

Name and address of contractor.....

Name and address of establishment which contractor is carried on.....

Name and location of work.....

Name and address of Principal Employer.....For the month of fortnight.....

Rate of Minimum Wages and since the				
	Highly Skilled	Skilled	Semi-Skilled	Un Skilled
Minimum Basic				
DA				
Overtime				

Name of the Establishment _____ Name of Owner _____ LIN _____ Wage period

From _____ To _____ (Monthly/Fortnightly/Weekly/Daily/Piece Rated)

Sl. No. in Employee	Name	Rate of Wage	No. of Days worked	Overtime hours	Basic	Special Basic	DA	Payments Overtim	HRA	Others	Total
1	2	3	4	5	6	7	8	9	10	11	12

Deductio								Net Payment	Employer Share PF Welfare Found
PF	ESIC	Society	Income Tax	Insuranc e	Others	Recoveri es	Total		
13	14	15	16	17	18	19	20	2	2

Receipt by Employee/Bank Transaction ID	Date of Payment	Remark s
2	24	25

FORM C
FORMAT OF REGISTER OF LOAN/ RECOVERIES

Name of Establishment _____ LIN _____

Sl. Number In Employee	Name	Recovery Type (Damage/loss/fine/advance/l	Particulars	Date of damage/Loss*	Amount
1	2	3	4	5	6

Whether show cause	Explanation heard in	Number of Instalments	First Month/Year	Last Month/Year	Date of Complete	Remarks
7	8	9	10	11	12	13

*Applicable only in case of damage/loss/fine

Register of wages

Name and address of contractor.....

Name and address of establishment which contractor is carried on.....

Name and location of work.....

Name and address of Principal Employer..... For the month of night

S. No	Name of workman	Serial no in the register of workman	Description/ nature of work done	No. of days worked	Units of work done	Daily rate	Basic wages	Allowance	Over-time	Amount of wages		Deduction if any (indicate nature)	Net amount paid	Sig. or thumb impression of the workmen	Initial contractor his representative
1	2	3	4	5	6		9		10	11	12	13	14	15	16

WAGE CARD

Wages Card No.....
 Name and Address of Contractor.....Date of issue.....
 Name and location of work.....Designation.....
 Name of workman.....Month/Fortnight.....
 Rate of Wages.....

1	2	3	4	5	6	7	8	9	1	1	1	1	1	1	1	1	1	1	2	2	2	2	2	2	2	2	2	2	3	31
									0	1	2	3	4	5	6	7	8	9	0	1	2	3	4	5	6	7	8	8	0	

Morning Rate

Evening Amount

Initial

Received from.....the sum of Rs.....on account of my wages
Signature

The Wage Card is valid for one month from the date of iss

Wages Slip

Name and address of contractor.....

Name and Father's/Husband name of workman.....

Name and location of work.....

For the week/Fortnight/Month ending.....

1. No. of days worked.....

2. No. of units worked in case of piece rate workers.....

3. Rate of daily wages/piece rate.....

4. Amount of overtime wages.....

5. Gross wages payable.....

6. Deduction, if any.....

7. Net amount of wages paid.....

Initials of the contractor or his representative

14/Form-XIV
[See rule 76]
Employment Card

- Name and address of contractor.....
- Name and address of establishment under which is carried.....
- Name of work and location of work.....
- Name and address of Principal Employee.....
1. Name of the workman.....
 2. SI. No. in the register of workman employed.....
 3. Nature of employment/designation.....
 4. Wage rate (with particulars of unit in case of piece work).....
 5. Wage period.....
 6. Tenure of employment.....
 7. Remark.....

Signature of Contractor

**FORM OF PERFORMANCE SECURITY (GUARANTEE)
Bank Guarantee Bond
(On Non-Judicial Stamp Paper of Rs100/-)**

1. In consideration of the Chairman, AAI (hereinafter called "AAI") having offered to accept the terms and conditions of the proposed agreement between [hereinafter called the said contractor(s)] for the work (hereinafter "the said agreement") having agreed to production of a irrevocable Bank Guarantee for Rs. (Rupeesonly) as a security / guarantee from the contractor(s) for compliance of his obligations in accordance with the terms and conditions in the said agreement.

We (Indicate the name of the Bank) (hereinafter referred to as "the Bank") hereby undertake to pay to the Chairman, AAI an amount not exceeding Rs. (Rupees only) on demand by AAI.

2. We (Indicate the name of the Bank) do hereby undertake to pay the amounts due to payable under this Guarantee without any demure, merely on a demand from AAI stating that the amount claimed is required to meet the recoveries due or likely to be due from the said contractor(s). Any such demand made on the Bank shall be conclusive as regards the amount due and payable by the Bank under this Guarantee. However, our liability under this guarantee shall be restricted to an amount not exceeding Rs. (Rupees only).

3. We, the said Bank, further undertake to pay the Chairman, AAI any money so demanded notwithstanding any dispute or disputes raised by the contractor(s) in any suit or proceeding pending before any court or tribunal relating thereto, our liability under this present being absolute and unequivocal.

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

4. We..... (Indicate the name of bank) 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 AAI under or by virtue of the said agreement have been fully paid and its claims satisfied or discharged or till Engineer-In-Charge on behalf of AAI certified that the terms and conditions of the said agreement have been fully and properly carried out by the said contractor(s) and accordingly discharges this guarantee.

5. We..... (indicate the name of the bank) further agree with AAI that AAI shall have the fullest liberty without our consent and without effecting in any manner our obligations hereunder to vary any of terms and conditions of the said agreement or to extend time of performance by the said contractor(s) from time to time or to postpone for any time or from time to time any of the powers exercisable by AAI against in the said contractor(s) and to forebear and enforce any of the terms and conditions relating to the said agreement and we shall not be relieved from our liability by reason of any such variation, or extensions being granted to the said contractor(s) or for any forbearance, act of omission on the part of AAI or any indulgence by the AAI to the said

contractor(s) or by any such matter or thing whatsoever which under the law relating to securities would, but for this provision, have effect of so relieving us.

6. This guarantee will not be discharged due to the change in the constitution of the Bank or the contractor(s).
7. We..... (Indicate the name of the bank) lastly undertake not to revoke this guarantee except with the previous consent of AAI in writing.
8. This guarantee shall be valid upto unless extended on demand by AAI. Notwithstanding anything mentioned above, our liability against this guarantee is restricted to Rs. (Rupees only) and unless a claim in writing is lodged within six months of the date of expiry or the extended date of expiry of this guarantee all our liabilities under this guarantee shall stand discharged.

In presence of

Dated this _____ Day of _____

Witness

- 1.
- 2.

For and on behalf of (The Bank)

Signature _____

Name & Designation _____

Authorisation No. _____

Name & Place _____

Bank's Seal _____

The above Guarantee is accepted by Airports Authority of India. For and on behalf of Airports Authority of India

Signature _____

Name _____

Designation _____

Dated _____

Note : * Date of validity should be schedule date of completion + Six months.

LIST OF ACTS AND OMISSIONS FOR WHICH FINES CAN BE IMPOSED

In accordance with rule 7(v) of the AAI Contractor's Labour Regulations to be displayed prominently at the site of work both in English and local Language.

1. Wilful insubordination or disobedience, whether alone or in combination with other.
2. Theft fraud or dishonesty in connection with the contractors beside a business or property of AAI.
3. Taking or giving bribes or any illegal gratifications
4. Habitual late attendance.
5. Drunkenness lighting, riotous or disorderly or indifferent behaviour
6. Habitual negligence.
7. Smoking near or around the area where combustible or other materials are locked
8. Habitual Indiscipline
9. Causing damage to work in the progress or to property of the AAI or of the contractor.
10. Sleeping on duty.
11. Malingering or slowing down work.
12. Giving of false information regarding name, age, father's name, etc.
13. Habitual loss of wage cards supplied by the employer's
14. Unauthorised use of employer's property of manufacturing or making of unauthorised particles at the work place
15. Bad workmanship in construction and maintenance by skilled workers which is not approved by the Department and for which the contractors are compelled to undertake rectifications.
16. Making false complaints and/or misleading statements.
17. Engaging on trade within the premises of the establishments.
18. Any unauthorised divulgence of business affairs of the employees.

19. Collection or canvassing for the collection of any money within the premises of an establishment unless authorised by the employer.
20. Holding meeting inside the premises without previous sanction of the employers.
21. Threatening or intimidating any workman or employer during the working hours within the premises.

APPENDIX-XIII

Form-XVII

[See Rule 78 (2) (d)]

Register of Fines

Name and address of contractor.....

Name and address of establishment which contractor is carried on.....

Name and location of work.....

Name and address of Principal Employer.....

Sl. No.	Name of workman	Father's/ Husband's Name	Designation nature of employment	Act or action for which fine imposed	Date of Offence	Whether workman showed cause against fine	Name of person in whose presence employee's explanation was heard	Wage period and wages payable	Amount of the imposed	Date on which fine realised	Remarks
1	2	3	4	5	6	7	8	9	10	11	12

GCC- 121

APPENDIX-XIV

Form-XVII
[See Rule 78 (2) (d)]

Register of Deduction for Damage or Loss

Name and address of contractor.....

Name and address of establishment under which contract is carried on.....

Name and location of work.....

Name and address of Principal Employer.....

Sl. No.	Name of workman	Father's Husband's Name	Designation/nature of employment	Particular of Damages or Loss	Date of damages or loss	Whether workman showed cause against deduction	Name of person in whose presence employee's explanation was heard	Amount of deduction imposed	No. of installments	Date of recovery		Remark
										First Installment	Last Installment	
1	2	3	4	5	6	7	8	9	10	11	12	13

APPENDIX-XV
Form-XXII
[See Rule 78 (2) (d)]
Register of Advances

Name and address of contractor.....

Name and address of establishment under which contract is carried on.....

Name and location of work.....

Name and address of Principal Employer.....

Sl. No.	Name of workman	Father's Husband's Name	Designation/nature of employment	Wage period and wages payable	Date and amount of advance paid	Purpose for which advance paid	Number of installment by which advance to be repaid	Date and amount of each installment repaid	Date on which last installment was repaid	Remark
1	2	3	4	5	6	7	8	9	10	11

Form-XXIII [See Rule 78 (2) (e)]

Register of Overtime

Name and address of contractor.....

Name and address of establishment under which contract is carried on.....

Name and location of work.....

Name and address of Principal Employer.....

S. No	Name of workmen	Father's/ Husbands Name	Sex	Designation / nature of employment	Date on which overtime worked	Total overtime worked at project in case of piece rate	Normal rate of wages	Overtime rate of wages	Overtime earning	Rate on which overtime paid	Remarks
1	2	3	4	5	6	7	8	9	10	11	12

NOTICE FOR APPOINTMENT OF ARBITRATOR
[Refer Clause 25]

To
.....
.....

Dear Sir,

In terms of clause 25 of the agreement, particular of which are given below, I/we hereby give notice to you to appoint an arbitrator for settlement of disputes mentioned below:

1. Name of applicant
2. Whether applicant is Individual/Prop. Firm /Partnership /Ltd. Co.
3. Full address of the applicant.
4. Name of the work and contract number in which arbitrator sought.
5. Name of the office which entered into contract.
6. Contract amount in the work.
7. Date of contract.
8. Date of initiation of work.
9. Stipulated date of completion of work.
10. Actual date of completion of work (if completed).
11. Total number of claim made.
12. Total amount claimed.
13. Date of intimation of final bill (if work is completed).
14. Date of payment of final bill (if work is completed).
15. Amount of final bill (if work is completed).
16. Date of request made for arbitration.
17. Date of receipt of ED's order.
18. Date of appeal.
19. Date of receipt of order on our appeal.

Specimen signature of the applicant
(Only the person/authority who
Signed the contract should sign)

I/We certify that the information given above is true to the best of my/our knowledge. I/We enclose following documents.

1. Statement of claims with amount of claims.
- 2.
- 3.
- 4.

Yours faithfully
(Signature)

Copy to:

1. The Engineer-in-charge,
.....

INTEGRITY PACT

The integrity pact shall be signed by both the parties in the following format

“This Pact made thisday of between Airports Authority of India, a body corporate constituted by the Central Government under the Airports Authority of India Act,1994 and having its Corporate Office at Rajiv Gandhi Bhawan, New Delhi, and offices atin India, hereinafter called the Authority (which term shall unless excluded by or is repugnant to the context, be deemed to include its Chairman, or Member, Executive Directors, Airport Directors, officers or any of them specified by the Chairman in this behalf, and shall also include its successors and assigns) of the one part

AND

.....represented by of the other part, hereinafter called the “Bidder/Contractor” (which term shall unless excluded by or is repugnant to the context be deemed to include its heirs, representatives, successors and assigns of the Bidder/ Contractor)

WHEREAS the Authority intends to award, under laid down organizational procedures, tender/ contract forThe Authority, while discharging its functions on business principles, values proper compliance with all relevant laws and regulations, and the principles of natural ,justice, ethics, equity, fairness and transparency in its relations with the Bidders/ Contractors.

WHEREAS the Authority is desirous to make its business mechanism more transparent, thus to ensure strict adherence of the aforesaid objectives/goals, the Authority hereby adopts the instrument developed by the renowned international non-governmental organization “Transparency International” (T I) headquartered in Berlin (Germany). The Authority will appoint an Independent External Monitor (IEM) who will monitor the tender process and the execution of the contract for compliance with the principles mentioned above.

AND WHEREAS the Bidder is submitting a tender to the Authority for In response to the NIT (Notice Inviting Tender) dated Contractor is signing the contract for execution ofNOW, 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 Authority to obtain the desired said stores/equipment/execution of works 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 Authority to abstain from bribing or indulging in any corrupt practice in order to secure the contract by providing assurance to them that their competitors will also abstain from bribing and other corrupt practices and the Authority 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:

- 1. Commitments of the Authority;**
- 1.1 The Authority undertakes that no official of the Authority, connected directly or indirectly with the contract, will demand, take a promise for or accept, directly or through intermediaries, any bribe, consideration, gift, reward, favour or any material or immaterial benefit or any other advantage from the BIDDER, either for themselves or for any person, organization or third party related to the contract in

- exchange for an advantage in the bidding process, bid evaluation, contracting or implementation process related to the contract.
- 1.2 The Authority will, during the pre-contact stage, treat all BIDDERS alike, and will provide to all BIDDERS the same information and will not provide any such information to any particular BIDDER which could afford an advantage to that particular BIDDER in comparison to other BIDDERS.
- 1.3 All the officials of the Authority will report to the appropriate authority office any attempted or completed breaches of the above commitments as well as any substantial suspicion of such a breach.
- 1.4 The information relating to procurements / contracts covered under IP and its progress / status is to be shared with the IEM's on monthly basis.
- 1.4 In case any such preceding misconduct on the part of such official(s) is reported by the BIDDER to the Authority with full and verifiable facts and the same is prima facie found to be correct by the Authority, necessary disciplinary proceedings, or any other action as deemed fit, including criminal proceedings may be initiated by the Authority and such a person shall be debarred from further dealings related to the contract process. In such a case while an enquiry is being conducted by the Authority the proceedings under the contract would not be stalled.

2. Commitments of Bidders/Contractor.

The Bidder/Contractor commits itself to take all measures necessary to prevent corrupt practice, unfair means and illegal activities during any stage of its bid or during any pre-contract or post-contract stage in order to secure the contract or in furtherance to secure it and in particular commit itself to the following.

- 2.1 The Bidder/Contractor 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 Authority, connected directly or indirectly with the bidding process, or to any person, organization or third party related to the contract in exchange for any advantage in the bidding, evaluation, contracting and implementation of the contract.
- 2.2 The Bidder/Contractor 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 Authority or otherwise in procuring the Contract or forbearing to do or having done any act in relation to the obtaining or execution of the contract or any other contract with the Authority for showing or forbearing to show favour or disfavour to any person in relation to the contract or any other contract with the Authority.
- 2.3 The Bidder / Contractor has not entered and will not enter with other bidders into any undisclosed agreement or understanding, whether formal or informal. This applies in particular to prices, specification, certifications, subsidiary contracts, submission or non-submission of bids or any actions to restrict competitiveness or to introduce cartelization in the bidding process.
- 2.4 The Bidder/Contractor shall, when presenting his bid, disclose the name and address of agents and representatives and Indian BIDDERS shall disclose their foreign principals or associates.
- 2.5 The Bidder/Contractor shall when presenting his bid disclose any and all the payments he has made or, is committed to or intends to make to agents/brokers or any other intermediary, in connection with this bid/contract.

- 2.6 The Bidder/Contractor further confirms and declares to the Authority that the BIDDER is the original manufacturer/integrator/ authorized government sponsored export entity of the 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 Authority or any of its functionaries, whether officially or unofficially to the award of the contract to the BIDDER, nor has any amount been paid, promised or intended to be paid to any such individual, firm or company in respect of any such intercession, facilitation or recommendation.
- 2.7 The Bidder/Contractor, either while presenting the bid or during pre-contract negotiations or before signing the contract, shall disclose any payments he has made or has committed to or intends to make to officials of the Authority or their family members, agents, brokers or any other intermediaries in connection with the contract and the details of services agreed upon for such payments.
- 2.8 The Bidder/Contractor will not collude with other parties interested in the contract to impair the transparency, fairness and progress of the bidding process, bid evaluation, contracting and implementation of the contract.
- 2.9 The Bidder/Contractor will not accept any advantage in exchange for any corrupt practice, unfair means and illegal activities.
- 2.10 The Bidder / Contactor shall not use improperly, for purposes of competition or personal gain ,or pass on to others, any information provided by the Authority as part of the business relationship, regarding plans, technical proposals and business details, including information contained in any electronic data carrier. The Bidder / Contractor also under takes to exercise due and adequate care lest any such information is divulged.
- 2.11 The Bidder/Contractor will inform to the Independent External Monitor.
- i) If he receives demand for an illegal/undue payment/benefit.
 - ii) If he comes to know of any unethical or illegal payment/benefit.
 - iii) If he makes any payment to any Authority's associate(s)
- 2.12 The Bidder/Contactor commit to refrain from giving any complaint directly or through any other manner without supporting it with full and verifiable facts.
- 2.13 The Bidder/Contactor shall not instigate or cause to instigate any third person to commit any of the actions mentioned above.
- 2.14 If the Bidder/Contractor or any employee of the Bidder/Contractor or any person acting on behalf of the Bidder/ Contractor, either directly or indirectly, is a relative of any of the officers of the Authority, or alternatively, if any relative of an officer of the Authority has financial interest/stake in the Bidder's/Contractor's firm, the same shall be disclosed by the Bidder/Contractor at the time filing of tender. The term 'relative' for this purpose would be as defined in Section 6 of the Companies Act 1956.
- 2.15 The Bidder/Contractor 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 Authority.
- 2.16 That if the Bidder/ Contractor, during tender process or before the award of the contract or during execution of the contract/work has committed a transgression in violation of section 2 or in any other form such as to put his reliability or credibility as Bidder/Contractor into question, the Authority is entitled to disqualify him from the tender process or to terminate the contract for such reason and to debar the BIDDER from participating in future bidding processes.

3. Previous Transgression

- 3.1 The Bidder/Contractor declares that no previous transgression occurred in the last three years immediately before signing of this Integrity Pact, with any other company in any country in respect of any corrupt practices envisaged hereunder or

- with any Public Sector Enterprise in India or any Government Department in India that could justify Bidders's exclusion from the tender process.
- 3.2 The Bidder/Contractor agrees that if it makes incorrect statement on this subject, he can be disqualified from the tender process or the contract, if already awarded, can be terminated for such reason and he may be considered for debarment for future tender/contract processes.
- 3.3 That the Bidder/Contractor undertakes to get this Pact signed by the subcontractor (s) and associate(s) whose value of the work contribution exceeds Rs 0.5 Cr. (Rupees zero point five Cr.) and to submit the same to the Authority along-with the tender document/ contract before contract signing.
- 3.4 That sub-contractor(s)/ associate(s) engaged by the Contractor, with the approval of the Authority after signing of the contract, and whose value of the work contribution exceeds Rs 0.5 Cr. (Rupees Zero point five Cr.) will be required to sign this Pact by the Contractor, and the same will be submitted to the Authority before doing/ performing any act/ function by such subcontractor(s) / associate(s) in relation to the contract/ work.
- 3.5 That the Authority will disqualify from the tender process all Bidder(s) who don't sign this Pact or violate its provisions or fails to get this Pact signed in terms of policy of authority
- 3.6 That if the Contractor(s) does/ do not sign this Pact or violate its provisions or fails to get this Pact signed in terms of policy of authority. Authority will terminate the contract and initiate appropriate action against such Contractor(s).

4. Earnest Money, Security Deposit, Bank Guarantee, Draft, Pay order or any other mode and its validity i/c Warranty Period, Performance Guarantee/Bond.

While submitting bid, the BIDDER shall deposit an EMD/SD/BG/DRAFT/PAY ORDER ETC I/C WARRANTY PERIOD, PG/BOND, VALIDITY etc. , which is as per terms and conditions and details given in NIT / tender documents sold to the Bidders.

5. Sanctions for Violations/Disqualification from tender process and exclusion from future Contacts.

- 5.1 Any breach of the aforesaid provisions by the BIDDER or any one employed by it or acting on its behalf (whether with or without the knowledge of the BIDDER) shall entitle the Authority 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 BIDDER. However, the proceedings with the other BIDDER(s) would continue.
 - ii) To immediately cancel the contract, if already signed, without giving any compensation to the BIDDER.
 - iii) If the Authority has disqualified / debarred the Bidder from the tender process prior to the award under section 2 or 3 or 4, the Authority is entitled to forfeit the earnest money deposited/bid security.
 - iv) To recover all sums already paid by the Authority, and in case of an Indian BIDDER with interest thereon at 2% higher than the prevailing Prime Lending Rate of State Bank of India, while in case of a BIDDER from a country other than India with interest thereon at 2% higher than the LIBOR. If any outstanding payment is due to the BIDDER from the Authority in connection with any other contract or any other stores, such outstanding payment could also be utilized to recover the aforesaid sum and interest.

- v) To en-cash the advance bank guarantee and performance bond/warranty bond, if furnished by the BIDDER, in order to recover the payments, already made by the BUYER, along with interest.
- vi) To cancel all or any other Contracts with the BIDDER. The BIDDER shall be liable to pay compensation for any loss or damage to the Authority resulting from such cancellation/rescission and the Authority shall be entitled to deduct the amount so payable from the money(s) due to the BIDDER.
- vii) To debar the BIDDER from participating in future bidding processes for a period upto two years.
- viii) To recover all sums paid in violation of this Pact by BIDDER(s) to any middleman or agent or broker with a view to securing the contract.
- ix) In case where irrevocable Letters of Credit have been received in respect of any contract signed by the Authority with the BIDDER, the same shall not be opened.
- x) Forfeiture of Performance Bond in case of a decision by the BUYER to forfeit the same without assigning any reason for imposing sanction for violation of this Pact.
- xi) That if the Authority have terminated the contract under section 2 or 3 or 4 or if the Authority is entitled to terminate the contract under section 2 or 3 or 4, the Authority shall be entitled to demand and recover from the contractor damages equivalent to 5% of the contract value or the amount equivalent to security deposit or performance bank guarantee, whichever is higher.
- xii) That the Bidder / Contractor agrees and undertakes to pay the said amount without protest or demur subject only to condition that if the Bidder/Contractor can prove and establish to the satisfaction of the Authority that the disqualification / debarment of the bidder from the tender process or the termination of the contract after award of the contract has caused no damage to the Authority.

5.2 The Authority will be entitled to take all or any of the actions mentioned at para 5.1(i) to (xii) of this Pact also on the Commission by the BIDDER or any one employed by it or acting on its behalf (whether with or without the knowledge of the BIDDER), of an offence as defined in Chapter IX of the Indian Penal code, 1860 or Prevention of Corruption Act, 1988 or any other statute enacted for prevention of corruption.

5.4 That if the Bidder/Contractor applies to the Authority for premature revocation of the debarment and proves to the satisfaction of the Authority that he has installed a suitable and effective corruption prevention system and also restored/recouped the damage, if any, caused by him, the Authority may, if thinks fit, revoke the debarment prematurely considering the facts and circumstances of the case, and the documents/evidence adduced by the Bidder/Contractor for first time default.

5.5 That a transgression is considered to have occurred if the Authority is fully satisfied with the available documents and evidence submitted along with Independent External Monitor's recommendations/suggestions that no reasonable doubt is possible in the matter.

5.6 The decision of the Authority to the effect that a breach of the provisions of this Pact has been committed by the BIDDER shall be final and conclusive on the BIDDER. However, the BIDDER can approach the Independent External Monitor(s) appointed for the purpose of this Pact.

6. Allegations against Bidders/Contractors/ Sub-Contractors/ Associates:

That if the Authority receives any information of conduct of a Bidder/ Contractor or Sub- Contractor or of an employee or a representative or an associate of the Bidder, Contractor or Sub- Contractor which constitute corruption, or if the Authority has

substantive suspicion in this regard, the Authority will inform the Vigilance Department for appropriate action.

7. Independent External Monitor(s),

- 7.1. That the Authority has appointed competent and credible Independent External Monitor(s) for this Pact.
- 7.2. The task of the Monitor(s) is to review independently and objectively, whether and to what extent the parties comply with the obligations under this Pact. He will also enquire into any complaint alleging transgression of any provision of this Pact made by the Bidder, Contractor or Authority.
- 7.3. That the Monitor(s) is not subject to any instructions by the representatives of the parties and would perform his functions neutrally and independently. He will report to the Chairperson of the Board of the Authority.
- 7.4. That the Bidder / Contractor accepts that the Monitor(s) has the right to access without restriction to all project documentation of the Authority including that provided by the Bidder/Contractor. The Bidder/Contractor will also grant the Monitor, upon his request and demonstration of a valid interest, unrestricted and unconditional access to his project documentation including minutes of meeting. The same is applicable to Sub - Contractors and Associates. The Monitor is under obligation to treat the information and documents of the Authority and Bidder/ Contractor / Sub- Contractors/ Associates with confidentiality.
- 7.5. That as soon as the Monitor notices, or believes to notice, a violation of this Pact, he will so inform the management of the Authority and request the management to discontinue or heal the violation, or to take other relevant action. The Monitor(s) can in this regard submit his recommendations/ suggestions. Beyond this, the Monitor(s) has no right to demand from the parties that they act in a specific manner, refrain from action or tolerate action.
- 7.6. That the Authority will provide to the Monitor(s) 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 Authority and the Contractor / Bidder. The parties offer to the Monitor(s) the option to participate in such meetings.
- 7.7. That the Monitor(s) will submit a written report to the Chairperson of the Board of the Authority within 2 weeks from the date of reference or intimation to him by the Authority and, should the occasion arise, submit proposals for correcting problematic situations.
- 7.8. That if the Monitor(s) has reported to the Chairperson of the Board a substantiated suspicion of an offence under relevant Anti- Corruption Laws of India and the Chairperson has not, within reasonable time, taken visible action to proceed against such offence or reported it to the Vigilance Department, the Monitor may also transmit this information directly to the Central Vigilance Commissioner, Government of India.
- 7.9. The word 'Monitor' would include singular and plural.

8. Facilitation of Investigation.

In case of any allegation of violation of any provisions of this Pact or payment of commission, the Authority or its agencies shall be entitled to examine all the documents including the Books of Accounts of the BIDDER and the BIDDER shall provide necessary information and documents in English and shall extend all possible help for the purpose of such Examination.

9. Law and Place of Jurisdiction.

That this Pact is subject to provisions under Indian Law. The place of performance and jurisdiction is the Corporate Headquarter /the Regional Headquarter / office of the Authority, as applicable.

10. Other Legal Actions

10.1 That the changes and supplements as well as termination notice need to be made in writing.

10.2 That if the Bidder / Contractor are a partnership or a consortium, this Pact must be signed by all the partners and consortium members or their authorized representatives.

10.3 That a person signing IP shall not approach the Courts while representing the matter to IEMs and he/she will await their decision in the matter.

11. Pact duration (Validity)

11.1 That this Pact comes into force when both the parties have signed it. It expires for the Contractor 12 months after the final payment under the respective contract, and for all other Bidders 3 months after the contract is awarded.

11.2. That if any claim is made / lodged during this period, the same shall be binding and continue to be valid despite the lapse of this Pact as specified herein before, unless it is discharged/determined by Chairman of the Authority.

11.3 That 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.

12. Company Code of Conduct

Bidders are also advised to have a company code of conduct (clearly rejecting the use of bribes and other unethical behaviour) and a compliance program for the implementation of the code of conduct throughout the company.

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

Buyer

Name of the Officer

Designation

Deptt./Ministry/PSU

Witness

1. _____

2. _____

Bidder

CHIEF EXECUTIVE OFFICER

Witness

1. _____

4. _____

(To be filled by Contractor)
(CLAUSE-47)

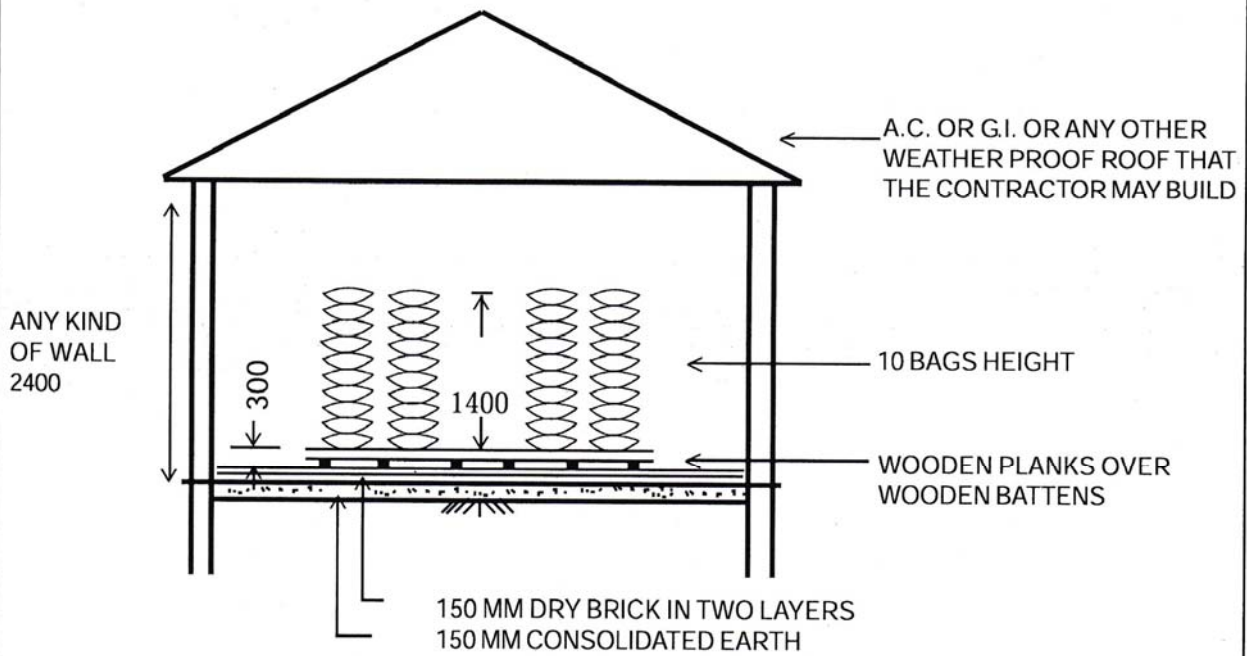
Ratio of direct payment to the specialized : ...% of the net payment made to
Specialized
agency in case of composite contract agency

Sl.	Sub-head	Nature of work	of the net payment to be to Specialized agency
1	Sub-head I		

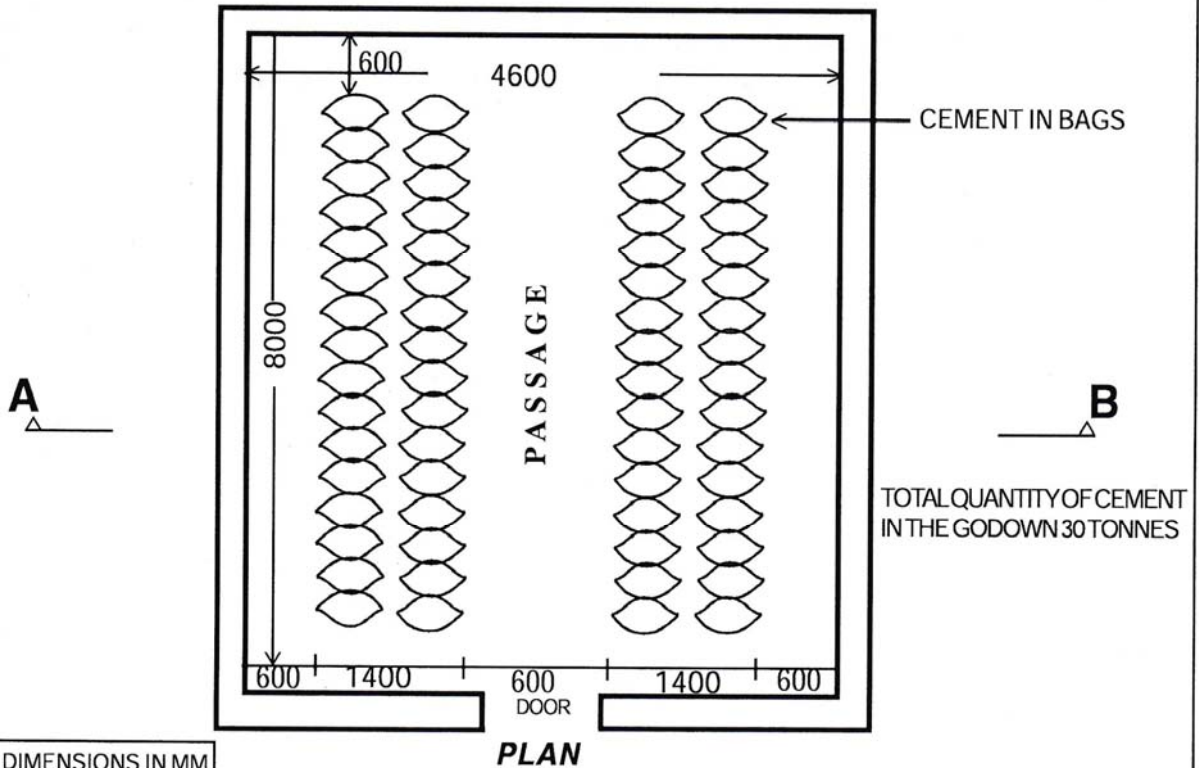
Note:

1. NIT approving authority ensure that all sub-heads of works are covered in above table. The contractor must state percentage payable to specialized agency in case of all sub-heads.
2. If % is not provided in any column against one or more subhead in this schedule, then 75% of the payment, as possible as per AAI for the subhead under consideration shall be paid directly to specialized agency in case of composite contract.

सीमेन्ट गोदाम का रेखाचित्र / SKETCH OF CEMENT GODOWN



SECTION AB



SKETCH OF CEMENT GODOWN

SCHEDULES

SCHEDULE `A`

All rates shall be quoted in the format provided and no other format is acceptable. The price bid has been given as a standard SOQ format at page no. SOQ-1 to SOQ-4 with the tender document, then the same is to be downloaded and to be filled by all the bidders. Bidders are required to download the BOQ file, open it and complete the blue coloured (unprotected) cells with their respective financial quotes and other details (such as name of the bidder). No other cells should be changed. Once the details have been completed, the bidder should save it and submit it online, without changing the File name. if the BOQ file is found to be modified by the bidder, the bid will be rejected and EMD shall be forfeited.

SCHEDULE `B`

Schedule of materials to be issued to the contractor.

Sl. No.	Description of Item	Quantity	Rates in figures & words at which the material will be charged to the contractor	Place of Issue
1	2	3		5
DELETED				

SCHEDULE 'F'

GENERAL RULES & DIRECTION

Officer inviting tender: Asstt. General Manager (Engg-Civil)-NR, AAI, CHQ, New Delhi

Maximum percentage for quantity of items of work to be executed beyond which rates are to be determined in accordance with Clauses 12.2 & 12.3	a: 30% (Overall) b: 100% (for foundation Items as described in Clause 12.5)
--	--

Definitions:

Office inviting tender : O/o ED Engg.-NR, CHQ, B-Block, 3rd Floor, Rajiv Gandhi Bhawan, Safdarjung Airport, New Delhi-110003

2(v) Engineer-in-Charge : Jt. GM/ DGM (Engg.-Civil), AAI, Jammu Airport

2(viii) Accepting Authority : As per AAI's DOP

2(x) Percentage on cost : 15%
materials &
Labour to cover all
overheads & Profits

2(xi) Standard schedule of rates : CPWD DSR 2021 with up to date correction slips as on last date of submission of tenders & market rates.

2(xii) Department : AAI, Engineering

Clause 1

(i)	Time allowed for submission of Performance Guarantee from the date of issue of letter of acceptance	within 30 Days
(ii)	Maximum allowable period of extension	As per Clause 1

Clause 2

Authority for fixing compensation under Clause 2	ED (Engineering), AAI
--	------------------------------

Clause 2A

Whether Clause 2A shall be applicable	No
---------------------------------------	----

Clause 5

Number of days from the date of issue of letter of acceptance for reckoning date of start	10 days
---	---------

Mile Stone(s) as per table given below:

Sl.No.	Description of Milestones (Physical)	Time allowed in days (from date of start)	Amount to be withheld in case of non achievement of milestone
AS PER CLAUSE NO. 5 OF GCC AND SPECIAL CONDITION OF CONTRACT			

Time allowed for execution of work : **18 months including 2 months considered for rains**

Authority to decide:

- i. Extension of time..... : **Executive Director (Engg.), AAI**
- ii. Rescheduling of milestone : **Executive Director (Engg.), AAI**
- iii. Shifting of date of start in case of delay in handing over of site... : **Executive Director (Engg.)**

Clause 6, 6A

Clause applicable – (6 or 6A): **Clause 6A is Applicable**

Clause 7

Gross work to be done together with net payment/adjustment of advances for material collected, if any since the last such payment for being eligible to interim payment.	Fortnightly / Rs. 50.00 Lakhs
--	-------------------------------

Clause 10A

Testing equipment to be provided by the contractor at site lab

All the Testing equipment's required for conducting test Building Works (Civil and Electrical works)/ Pavement works as per CPWD, AAI specifications, Manufacture's specifications, MoRTH, IRC as applicable.

Clause 10 B(II)

Whether Clause 10B(II) shall be applicable **Yes**

Clause 10C: Applicable

Component of labour expressed as percent of value of work:

- Road & Pavement works : 05%**
- Rest of the works : 25%**

All the Testing equipment's required for conducting test Building Works (Civil and Electrical works)/ Pavement works as per CPWD, AAI specifications, Manufacture's specifications, MoRTH, IRC as applicable

Clause 10 CA

Materials covered under this clause	Nearest Material (other than cement*, reinforcement bars, structural steel Bitumen) for which India Wholesale index is to be followed	Base price for corresponding period of the materials covered under clause 10CA
1. Cement (OPC/PPC)	Grey Cement	price for cement and reinforcement steel to be determined as issued under authority of DG (Works). CPWD or concerned Zonal Chief Engineer, CPWD as on last date of receipt of tender. In case base price for cement & reinforcement steel as to be issued by CPWD is not available concerned ED (Engg) empowered to determine the same. Ex-Factory Base price for Bulk Bitumen: a) VG-10 grade Rs. -----/- per MT (Excluding GST) b) VG-30 grade Rs. -----/- per MT (Excluding GST)
2. Reinforcement steel bars (TMT)/ Corrosion resistant Reinforcement Steel Bar	Reinforcement Steel Bar	
3. Structural Steel	Structural Steel	
4. Bitumen	Bitumen	

***Note**

1. In cement component used in RMC brought at site from outside approved RMC plants, if any.
2. Base price for corresponding period of all the materials covered under clause 10CA is to be mentioned at the time of approval of NIT. In case of recall of tenders, the base price may be modified by adopting latest base price and its corresponding period.

Clause 10 CC Not applicable for this work

Clause 10CC to be applicable in contracts with stipulated period of completion exceeding the period shown in next column	18 Months
--	-----------

A. For Construction period

S. No	Relevant component of Material/ Labour for price escalation	*Percentage against total value of work
1.	Cement component	
2.	Labour component	

3.	Civil Component of other Construction Materials	
4.	E&M (Electrical and Mechanical i/c IT & Airport system) component of Construction Materials	
5.	POL (Diesel) component	
6.	Reinforcement steel bars/ TMT bars/ structural steels (including strands and cables) component	
7.	Bitumen component	
	Total	100%

*% of components to be decided by NIT approving authority for particular tender.

B. For operation & maintenance period

S. No	Relevant component of Material/ Labour for price escalation	*Percentage against total value of work
1.	Labour component	
2.	Civil Component of other Construction Materials	
3.	E&M (Electrical and Mechanical i/c IT & AS) component of Construction Materials	
4.	Bitumen component (For Pavement work component)	
	Total	100%

*% of components to be decided by NIT approving authority for particular tender.

Clause 11

Specification to be followed for execution of work	a) MoRTH Specification, "CPWD Specification 2019, Vol. I to II for Civil works and CPWD Specification 2023 for Electrical works with upto date correction slips, or other standard engineering specification as applicable. b) Technical specification. c) Manufacturer's Specification.
--	--

Clause 12

12.2 & 12.3	Deviation limit beyond which clauses 12.2 & 12.3 shall apply for buildings, pavements and all other works above foundation level.	30% (Thirty Percent)
12.5	Deviation limit beyond which clauses 12.2 & 12.3 shall apply for foundation work	100% (Hundred Percent)

Clause 16

Competent Authority for deciding reduced rates	DGM/ Jt.GM(Engg)
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Clause 17

Contractor Liable for Damages, defects during maintenance period – Twelve (12) months

Clause 18

Mandatory machinery, tools & plants to be deployed by the contractor at site:

To be provided as per NIT/SCC and other Machinery required for timely completion of work.

Clause 25

Place of Arbitration: New Delhi

Clause 36(1)**Requirement of Technical Representative(s) and recovery rate**

Sl. No.	Minimum Qualification of Technical Representative	Discipline	Designation (Principal Technical representative)	Minimum Experience	Number	Rate at which recovery shall be made from the contractor in the event of not fulfilling provision of clause 36	
						Figures Rs.	Words
1.	Graduate	Civil Engineer	Project Engineer	5 years	1	Rs. 3000 per day	Rupee Three thousand per day
2.	Diploma	Civil Engineer	Site Engineer/Lab incharge	3 years	2	Rs. 1500 per day	Rupee One thousand Five Hundred per day

- a. Assistant Engineers retired from Government services that are holding Diploma will be treated at par with Graduate Engineers.
- b. Diploma holder with minimum 10 year relevant experience with a reputed construction company can be treated at par with Graduate Engineer for the purpose of such deployment subject to the condition that such diploma holder should not exceed 50% of requirement of degree engineers

Clause 37

License Fee for unpaved land – NIL

Clause 41(b)

Integrity Pact applicable

Yes

Clause 42

(i)	Schedule/statement for determining theoretical quantity of cement & bitumen on the basis of Delhi Schedule of Rates	DSR 2021(Civil/ Electrical) printed by C.P.W.D with up-to-date correction slips till last date of submission of tender, technical specifications & BOQ.
(ii)	Variations permissible on theoretical quantities	
a.	Cement for works with estimated cost put to tender not more than Rs.5 lakhs.	3% plus/minus
	For works with estimated cost put to tender more than Rs.5 lakhs	2% plus/minus
b.	Steel Reinforcement and structural steel section for each diameter, section and category	2% plus/minus
c.	Bitumen	2.5% plus only & NIL on minus side
d.	All other materials	

RECOVERY RATES FOR QUANTITIES BEYOND PERMISSIBLE VARIATION

Sl. No.	Description of items	Rates in figures and words at which recovery shall be made from the contractor	
		Excess beyond permissible variation	Less use beyond the permissible variation*
1.	Cement	Not Applicable	Not permitted
2.	Steel reinforcement	Not Applicable	Not permitted
3.	Structural Sections	Not Applicable	Not permitted
4.	Bitumen issued free	Not Applicable	Not permitted
5.	Bitumen issued at stipulated fixed price	Not Applicable	Not permitted

* Provided work is considered technically sound. Otherwise work has to be re-executed as per direction of Engineer-in-charge

Clause 48

Escrow Account: Not Applicable.

Annexure to clause 34 (x)

Annexure to clause 34 (x) showing quantities of materials for areas of surfacing to be considered for working out minimum period for which hire charges of road roller are to be recovered.

Sl.No.	Material of surfacing	Quantity or areas
1.	Consolidation of earth subgrade	1868
2.	Consolidation of stones soling 15 cm to 22.5 cm thick	Cu.m
3.	Consolidation of brick soling 10 cm to 20 cm thick	m
4.	Consolidation of wearing coat of stone ballast 7.5 cm to 11.5 cm thick	30 Cu.m
5.	Consolidation of wearing coat of brick ballast 10 cm thick	60
6.	Spreading and consolidation of red bajri 6mm	0 Sq.m
7.	Painting one coat using stone aggregate 12.5mm nominal size (a) @ 1.65 m ³ per 100 m ² and paving bitumen emulsion for S-90@2.25 Kg per m ² or (b) @ 1.50 m ³ per 100 m ² and bitumen emulsion on or Road@2.25 Kg per m ²	930 Sq.m.
8.	Painting two coats using (a) For first coat, stone aggregate 12.5 mm nominal size (i) @ 1.50 m ³ per 100 m ² and paving bitumen emulsion for S-90@2 Kg per m ² or (i) @ 1.35 m ³ per 100 m ² and bitumen emulsion @2 Kg per m ² 600 Sq.m. or (ii) @ 1.25 m ³ per 100 m ² with roadtar @ 5 Kg per m ²	600 Sq.m.
	(b) For 2nd Coat, stone aggregate 10 mm nominal size 0.9 Cu.m. per 100Sq.m with (i) 1kg of paving bitumen emulsion for S-90 or S-90 or bitumen emulsion per Sq.m. or (ii) 1.25 Kg. of roadtar per Sq.m. 600 Sq.m.	600Sq.m.
9.	Re-painting with stone aggregate 10 mm nominal size 0.9 Cu.m. per 100 Sq.m. with (i) 1kg of paving bitumen emulsion for S-90 or S-90 per Sq.m. ;k or (ii) 1.25 Kg. of roadtar per Sq.m. 1670 Sq.m.	1670 Sq.m.
10.	2 cm premix carpet surfacing using 2.4 m ³ of stone aggregate 10 mm nominal size per 100 m ² and binder including tack coat, the binder being hot cut back bitumen or bitumen emulsion in specified	930 Sq.m
11.	2.5 cm premix carpet surfacing using 3 m ³ of stone aggregate 10 mm nominal size per 100 m ² and binder including tack coat, the binder being hot cut back bitumen or bitumen emulsion in	930 Sq.m

	specified quantities.	
12.	4 cm thick bitumen concrete surfacing using stone aggregate (60% 20mm nominal size and 40% 12.5 mm nominal size) per 100m2 and coarse sand 1.9 Cu.m. per 100m2 and bitumen over a tack coat of hot cut back bitumen.	Sq.m.
13.	5 cm thick bitumen concrete surfacing using stone aggregate (60% 25 mm nominal size and 40% 20 mm nominal size) per 100m2 and coarse sand 2.4 Cu.m. per 100m2 and bitumen over a tack coat of hot cut back bitumen.	Sq.m.
14.	6 cm thick bitumen concrete surfacing using stone aggregate (60% 40 mm nominal size and 40% 25 mm nominal size) per 100m2 and coarse sand 2.9 Cu.m. per 100m2 and bitumen over a tack coat of hot cut back bitumen.	280 Sq.m.
15.	7.5 cm thick bitumen concrete surfacing using stone aggregate (60% 50 mm nominal size and 40% 25 mm nominal size) per 100m2 and coarse sand 3.65 Cu.m. per 100m2 and hot cut back bitumen over a tack coat of hot cut back bitumen.	230 Sq.m.
16.	2.5 cm bitumastic sheet using stone aggregate (60% 12.5 mm nominal size 40% 10 mm nominal size) per 100 Sq.m. and coarse sand 1.65 Cu.m. per 100 Sq.m. and hot cut back bitumen over a tack coat of hot cut back bitumen.	750 Sq.m.
17.	4 cm bitumastic sheet , using stone aggregate (60% 12.5 mm nominal size, 40% 10 mm nominal size) per 100 Sq.m. and coarse sand 2.5 Cu.m. per 100 Sq.m. and hot cut back bitumen over a tack coat of hot cut back bitumen.	560 Sq.m.
18.	Laying full grouted surface using stone aggregate 40 mm nominal size 6.10 Cu.m. per 100 Sq.m. with binder, binding with 20 mm to 12.5 mm nominal size stone grit. 1.83 Cu.m. per 100 Sq.m. and seal coat of binder and stone aggregate 10 mm nominal size, 1.07Cu.m. per 100 Sq.m., the binder being bitumen or tar as specified.	460 Sq.m.
19.	Laying full grouted surface using stone aggregate 50 mm nominal size 9.14 Cu.m. per 100 Sq.m. with binder, binding with stone grit 20 mm to 12.5 mm nominal size 1.83 Cu.m. per 100 Sq.m. and seal coat of binder and stone aggregate 10 mm nominal size, 1.07Cu.m. per 100 Sq.m., the binder being bitumen or tar,	370 Sq.m.
20.	4cm. thick premix mastic surfacing using stone aggregate 25 mm nominal size 4.5 Cu.m. per 100 Sq.m. and hot bitumin binding with stone aggregate 12.5 mm nominal size 1.52 Cu.m. per 100 Sq.m. and seal coat of hot bitumen and stone aggregate 10 mm nominal size 1.07 Cu.m. per 100 Sq.m.	560 Sq.m.
21.	5cm. thick premix mastic surfacing using stone aggregate 25 mm nominal size 6.10 Cu.m. per 100 Sq.m. and hot bitumin binding with stone aggregate 12.5 mm nominal size 1.52 Cu.m. per 100 Sq.m. and seal coat of hot bitumen and stone aggregate 10 mm nominal size 1.07 Cu.m. per 100 Sq.m.	460 Sq.m.

SPECIAL CONDITIONS OF CONTRACT (CIVIL WORKS)

1. GENERAL

- 1.1 Special conditions of Contract shall be read in conjunction with General Conditions of Contract, Technical Specifications, Drawings and any other documents forming part of this contract wherever the context so requires.
- 1.2 Notwithstanding the sub-division of the documents into these separate sections and volume every part shall be deemed to be supplementary to and complementary of every other part and shall be read with and into the CONTRACT so far as it may be practicable to do so.
- 1.3 Where any portion of the General Condition of Contract is repugnant to rate variance with any provisions of the Special Conditions of Contract, unless a different intention appears, the provisions of the Special Conditions of Contract shall be **deemed to override** the provisions of the General Conditions of Contract and shall to the extent of such repugnancy, or variations, prevail.
- 1.4 Nothing extra shall be payable on account of various activities to be performed as per special conditions of contract except where so specified.

2. COMPLETION SCHEDULE

- 2.1 Contractor shall have to plan his construction program and activities so as to complete the work in the stipulated period by working in **multiple shifts**. Accordingly, contractor to ensure adequate lighting arrangement (Mobile Tower) as per site requirement. The period of completion given includes the time required for mobilization as well as testing, rectifications, if any, re-testing and completion in all respects to the entire satisfaction of Engineer-in-Charge.
- 2.2 After the Contract is awarded, within 15 days, the Contractor shall submit a Time and Progress Chart for each mile stone and get it approved by the Engineer-in-charge. BAR chart showing the mile stone for completion of work within the stipulated time and as per conditions of the contract. The program should clearly include Manpower, Material and Machinery, resources proposed to be deployed for achieving the targeted progress, justification for same based on machinery output, the date from which each machinery shall be available at site in working condition etc. complete. The program shall be subject to the approval of Engineer-in-Charge who may order changes in the program. The decision of Engineer-in-Charge shall be final and binding in this regard.
- 2.3 Contractor is expected to mobilize and deploy sufficient resources as per the agreed program to achieve the progress within the broad frame work of accepted methods of working and safety. Timely deployment of required machineries, equipment's, apparatus and instruments are to be treated as one of the sections of the work.
- 2.4 No additional payment shall be made to the contractor for any multiple shifts of working or any other methods contemplated by him in his work schedule even though the time schedule is approved by the Engineer-in-Charge.
- 2.5 During the currency of the work the contractor is expected to adhere to the time schedule on mile stone and total completion and this adherence will be a part of Contractor's performance under the contract.

2.6 The Engineer-in-Charge can hold the payment till such time; the contractor does not submit Bar Chart, Work Program etc.

2.7 **FOR MONITORING OF PROJECT**

2.7.1 A PERT/CPM/BAR chart shall be submitted by the agency. Two copies of proposed BAR chart showing activities completed and backlog if any, should be submitted to the Engineer-in-Charge on monthly basis. The revised BAR chart with additional manpower/machinery/ labour deployment scheduled should also be submitted in case regular backlog is observed and revised program is essential to complete the work within stipulated period and maintain timelines for individual activities.

2.7.2 The progress of work will be reviewed on weekly basis. The contractor has to submit every Monday progress achieved in the last week based on the proforma approved by Engineer-in-Charge. The proforma should indicate the physical progress achieved viz-a-viz targeted including tentative financial figure of work done during the week. The contractor will also submit the monthly progress report in the prescribed format indicating physical as well as financial progress achieved viz-a-viz targeted.

2.7.3 The approval to the revised schedule resulting in a completion date beyond the stipulated date of completion shall not automatically amount to grant of extension of time to the Contractor.

2.7.4 The extension of time (E.O.T.) shall be applied by the contractor and processed by the Engineer-in-charge and submitted to competent authority for sanction in parts as specified below:

Part Final-I: Immediately after expiry of half of the stipulated completion period.

Final EOT: After completion of the work.

2.7.5 Compensation for delay against GCC clause 2 for unjustified period of delay in completion of work shall be worked out on the basis of AAI guidelines/ T.I. in vogue for working out the losses to be recovered towards compensation for delay.

3. **SCOPE OF WORK**

The brief scope of work is, but not limited to, as under:

- Construction of 23m wide Link Taxiways and Apron (as per enclosed drawing) for parking of 13 Nos. AB-321 type of aircraft.
- 5.5 M wide shoulder to be provided all along the edge of the apron and link taxi track to the apron.
- Construction of GSE Area
- Provision of drainage system for the apron connecting to the main storm water drains with required culverts, if necessary, OWS etc.
- Provision of Taxiway & Apron marking, holding point marking mandatory instruction marking wherever required as per Annex-14, Aerodrome design Manual Part-IV (Visual Aids) and DGCA CAR.
- Provision of Housing boxes for apron and taxiway edge lights
- Provision of Pipes for cable laying.
- Perimeter road.

Works to be carried out as per the Bill of Quantities /Structural details and design as approved by AAI and any other related works considered necessary.

4. DRAWINGS AND DOCUMENTS

- 4.1 The drawings accompanying the tender document are of indicative nature and issued for tendering purpose with the purpose to enable the tenderer to make an offer in line with the requirements of the AAI.
- 4.2 The pavement sections for execution of work shall be as per the "Approved drawings" issued by Engineer-in-charge and detailed specifications provided in Contract Document. No claim whatsoever, shall be entertained for variation in the approved for construction drawings and tender drawings.

5. BILL OF QUANTITIES

The Bill of Quantities shall be read in conjunction with General Conditions of Contract, Special Conditions of Contract, Technical Specifications, CPWD, AAI and MoRTH specifications, Drawings and any other Document forming a part of this tender. The quantities shown against the various items are only approximate and subject to variations as made in General Conditions of the Contract.

6. LICENSE FEE FOR LAND ALLOTTED BY AAI

- 6.1 The contractor shall not be permitted to enter in (other than for inspection purpose) or take possession of the site until instructed to do so by the Engineer-in-Charge in writing. The portion of the site to be occupied by the contractor shall be defined and/or marked on the site plan, failing which these shall be indicated by the Engineer-in-Charge at site and the contractor shall on no account be allowed to extend his operations beyond these areas. In respect of any land allotted to the contractor for purpose of or in connection with the contract, the contractor shall be issued a license subject to the following and such other terms and conditions as may be imposed by the licenser: -

- i) Land/space (Paved/ Unpaved/ Covered-AC or Non-AC), to the extent allotted to contractors during execution of work for the purpose of installation of plants, labour camps, cement godown, site office, stacking of materials shall be provided at free of cost upto defect liability period/ Maintenance period.
- ii) A security deposit at the rate of Rs 500/- per sqm in the form of DD/BG shall be deposited by the contractor. In case contractor do not deposit security deposit same shall be deducted from Ist Running Account Bill.
- iii) Such security deposit shall be released only after allotted land has been fully vacated by the contractor to entire satisfaction of Engineer-in-Charge. If contractor fails to vacate the allotted land/ space (Paved/ Unpaved/ Covered-AC/ Non-AC) after Defect Liability Period/ Maintenance Period of the work shall be charged as per prevailing licence fee of the airport plus 25% penalty over that.
- iv) That such use or occupation shall not confer any right of tenancy of the land to the contractor.
- v) That the contractors shall be liable to vacate the land on demand by the Engineer-in-Charge.
- vi) That the contractor shall have no right to any construction over this land without the written permission of the Engineer-in-Charge. In case, he is allowed to construct any structure, he shall have to demolish & clear the same before handing over the completed work unless agreed to the contrary.

- 6.2 The contractor shall provide, if necessary or if required on the Site, all temporary access thereto and shall alter, adapt and maintain the same as required from time to

time and shall take up and clear them away as and when no longer required and as and when ordered by the Engineer-in-Charge and make good all damage done to the Site.

6.3 **Land for Labour Camps:** *Labour camps will not be permitted within the Airport operational area.*

7. TEMPORARY WORKS

7.1 The Tenderer should see the approaches to the site of work and conditions of the same. If any approach from main road is required to be made at site or existing approach is to be maintained for cartage of materials etc. by the Contractor, the same shall be provided, improved and maintained by the Contractor at his own cost.

7.2 The contractor shall, during construction, provide aesthetically good looking barricades at his own cost, if required, as per specifications prescribed by the Engineer-in-charge to segregate the working area from operational and non-operational area to ensure security and safety of all concerned.

The barricading towards operational area shall be as per BCAS specifications (8 ft. MS sheet (duly painted with red & white paint on airside) +1½ ft. concertina coil overhang) including making provision for lighting during the night. After completion of work these shall be removed and taken away by the contractor. Nothing extra shall be paid on this account. However, if no barricading is required at site, no recovery shall be made on this account. The plan for barricading to be got approved in advance from the EIC.

7.3 All temporary works required for execution of the main work shall be the responsibility of the Contractor and the quoted rate for the work is assumed to be inclusive of all such works and noting extra is payable on this account.

8. PAYMENTS

8.1 For the work done by the agency, R/A bill are to be processed every month. These monthly bills shall be prepared based on joint measurements on a prefixed date. If the contractor or his authorized representative does not present/associates for joint measurements, ex-parte measurements of the work done since previous bill shall be recorded by the Engineer-in-charge or his authorized representative for the purpose of monthly bill/payments. The bills shall be submitted on the format prescribed by the Engineer-in-Charge, through **computerized billing** in triplicate.

8.2 The payment due to the contractor shall be made within 15 days of the submission of the bill by the contractor and the measurements shall be verified by the Engineer-in-Charge or his representative within 10 days of submission of the bill. The payment shall be made from the AAI **Office at Jammu through ERP/SAP system.**

9. INCOME TAX AND LABOUR CESS

9.1 Income Tax deductions shall be made from all payments made to the Contractor as per the rules and regulations in force in accordance with the Income Tax Act prevailing from time to time.

9.2 Labour cess as per rules and regulations in force shall be deducted from the bills of the contractors and deposited with designated authorities.

10. POWER SUPPLY

Contractor shall make his own arrangements for power supply for the execution of the work.

11. CONTRACT AGREEMENT

- 11.1 The contract agreement shall be executed on a non-judicial stamp paper of value Rs.100/- to be provided by the Contractor.
- 11.2 Contractor's tender including the letters of clarifications between the contractor and the AAI prior to the award of contract shall form a part of the Contract Agreement to the extent they have been accepted by AAI.

12. SITE ORGANISATION

Subject to the provisions in the tender document and without prejudice to contractors' liabilities and responsibilities to provide adequate qualified and skilled personnel on the work, contractor shall also ensure site organization and augment the same as decided by the Engineer-in-Charge depending on the exigencies of work. No engineering personnel deployed at site shall be removed from the site without prior approval of the Engineer-in-charge.

13. FIELD LABORATORY

- 13.1 The contractor at his own cost shall set up within 21 days from the schedule date of start of work a fully furnished and adequately equipped field laboratory as per work requirement and maintain the same by providing adequate technical and upkeep staff. The laboratory should have office space for engineers to do testing and store for storage of samples. The remaining space shall be provided for the installation of equipment, laboratory tables and cupboards, working space for carrying out tests, besides a wash basin/sink.
- 13.2 The contractor shall arrange necessary laboratory apparatus/equipment as required for various routine tests to be conducted as per specification for the items of work. Contractor shall arrange necessary steel tapes, leveling instrument and total station as per requirement at the site of work. Nothing extra shall be payable to contractor on this account.

14. INSPECTION OF SITE AND TESTING

- 14.1 The Engineer-in-Charge or his authorized representative shall have full power to inspect any portion of the work, examine the materials and workmanship at the contractor's works or at any other place from where the material is obtained. Acceptance of any material shall in no way relieve the contractor of his responsibility for meeting the requirement of the specifications.
- 14.2 All branded materials shall be supplied with manufacturer's certificate. If AAI wants to carry out any specific test on the material supplied by the contractor through an outside laboratory to verify any of the parameters, the testing charges for such tests shall be borne by the agency. In case of failure to meet the test/specifications criteria, the defective material shall be replaced by the contractor with suitable material and the contractor shall be liable to carry out such tests thorough an outside laboratory as the Engineer-In-Charge may decide to verify important parameters of the specifications of the material.

- 14.3 The cost of all site tests as above by way of cost of sample, transportation, freight (inclusive of taxes if any) shall be borne by the contractor.

15. ADMISSION TO SITE

The work site belongs to AAI. For the works falling within the restricted area, execution shall be restricted to non-operational hours. The contractor is expected to finish the work before each break by adequate planning with suitable construction joints etc. as per the satisfaction of Engineer-in-Charge. All men and vehicles shall be permitted to enter the aerodrome operational area only on possession of the security passes issued by AAI or his authorized representative. The contractor shall apply in writing in advance of the commencement of work for issue of security passes and shall submit list of personnel concerned with their addresses and shall satisfy the Engineer-in-Charge who shall, at his discretion, have the right to recommend the issue of passes to control the admission of contractor, his agents, his staff and workmen. The contractor shall ensure that his men shall work in areas/zones allotted to them. Passes shall be deposited with the Engineer-in-Charge on demand and in any case immediately after completion of work. The contractor's staff/workmen shall observe all the rules promulgated from time to time by the concerned authorities such as prohibition of smoking & lighting, search of persons on entry and exit, keeping to specified routes etc. Any person found violating the security rules laid down by the authorities will be expelled from the area without assigning any reason whatsoever and contractor shall have no claim on this account.

16. STORES AND MATERIALS

No storage accommodation will be arranged by AAI, Contractor shall make all such arrangements at his own cost to the satisfaction of Engineer-in-Charge.

17. SITE FOR STACKING OF MATERIALS, MACHINES, INSTALLATIONS OF T&P AND CONSTRUCTION OF TEMPORARY HUTMENTS.

- 17.1 The contractor shall be allowed to install plants and machineries, store and stack the material within airport premises. The contractor shall not be permitted to enter on (other than for inspection purpose) or take possession of the site until instructed to do so by the Engineer-in-Charge in writing. The portion of the site to be occupied by the contractor shall be defined and/or marked on the site plan, failing which these shall be indicated by the Engineer-in-Charge at site and the contractor shall on no account be allowed to extend his operations beyond these areas.

- 17.2 The contractor shall co-operate with any other agency working on the same project, compare plans, specifications and the time schedule and so arrange his work that there will be no interference. The contractor shall forward to the Engineer-in-Charge all correspondence and drawings so exchanged. Failure to check plans for conditions will render the contractor responsible for bearing the cost of any subsequent change found necessary, contractor should co-ordinate in such a way that on no account there should be any disturbance to the work. No claim on this account shall be entertained by AAI.

18. BYE-LAWS

- 18.1 The contractor shall comply with all bye-laws and regulations of local and statutory authorities having jurisdiction over the works and shall be responsible for payment of all fees and other charges and for giving and receiving of all necessary notices and

keeping the Engineer-in-Charge, informed of the said compliance with the bye-laws, payments made, notices issued and received.

- 18.2 The contractor shall indemnify the AAI against all claims in respect of patent rights, design, trademarks of name or other protected rights in respect of any plant, machine, work or materials used for or in connection with the work or temporary works and from and against all claims, demands proceedings, cost, charges and expenses whatsoever in respect of or in relation there to. The contractor shall defend all actions arising from such claims and shall himself pay all royalties, license fees, damages, costs and charges of all and every sort that may be legally incurred in respect thereto.

19. SITE PRECAUTIONS

- 19.1 Any materials or T & P etc. found lying outside the sites approved by the Engineer-in-Charge shall be removed by the Engineer-in-Charge at the risk and cost of the contractor.
- 19.2 With regard to construction safety measures, the contractor shall adhere to various Indian Standard Codes of Practice, ICAO guidelines, requirements of Provincial Government and local Municipal Authority wherever the provisions of the latter two agencies shall be more stringent than the provisions of the former. When these codes do not exist, the contractor shall adhere to such safety measures as directed by the Engineer-in-Charge.
- 19.3 The contractor shall be responsible for any damage, resulting from his operations, either to buildings, structures, airport fixtures such as underground cable, lights, hard surface areas, water mains, other operational installations, Airport roads etc. The contractor shall restore, replace or repair any such damage to the complete satisfaction of the Engineer-in-Charge and in default the Engineer-in-Charge may cause the same to be made good by any other means and deduct the expenses from any sums due to contractor.
- 19.4 The construction equipment/vehicle deployed inside operational area shall be accompanied by an initial certificate of pavement/road worthiness and fitness issued by the manufacturer. Subsequently, after expiry of the initial certificate, manufacturer or his authorized agency shall issue fitness certificate including servicing and calibration on yearly basis for the safe operation of the construction equipment in operational area. The Engineer-in-charge and his authorized representatives shall ensure to check the validity of the fitness certificate of the construction equipment.
20. The contractor shall take all precautions to avoid accidents by exhibiting necessary day & night caution boards, speed limit boards, red flags, red lights, providing barriers and safety tapes. He shall be responsible for all damages and accidents caused due to negligence on his part. No hindrances shall be caused to traffic during execution of work.
21. No payment will be made to the contractor for damage caused by rains or other natural calamities during the execution of the works and no such claim on this account will be entertained.
22. The contractor shall remove the labour huts, temporary barricades etc. on completion of the work and leave the site in a neat and tidy state. The payment of final bill will be subject to the compliance of this condition by the contractor.

23. MATERIAL AT SITE

- 23.1 Materials brought to the site by the contractor shall be stored by the contractor in a safe/dry storage space. The contractor shall be responsible for safe custody of materials at site till such time, the installation is commissioned and handed over to the Engineer-in-Charge.
- 23.2 Cement bags shall be stored in separate godowns to be constructed by Contractor at his own cost with weather proof roofs and walls. Bulk cement should be stored in silos.

24. WORKING IN RESTRICTED AREA AND RESTRICTED TIME

For the work to be carried out in restricted area, the Contractor shall have to coordinate with the AAI, for locating T&P and stacking of materials etc. Nothing extra shall be paid to the Contractor on this account.

In case, it appears, at any stage that the project may not be completed within the stipulated period due to restricted working hours in day time, the contractor shall execute the work during the night as and when asked by the Engineer-in-Charge in writing. Nothing extra shall be payable to contractor for working in night time. For proper execution, the work site shall be properly illuminated and arrangement shall be made by the contractor at his own expenses.

25. ARRANGEMENT TO BE MADE BY THE CONTRACTOR AT SITE

- 25.1 Necessary registers and stationery required for entering data and test results shall be provided by the contractor at his own cost as directed by the Engineer- in-Charge.
- 25.2 The agency is also required to provide safety devices to the other manpower (male/female) deployed at site for the work as detailed below: -
- i) Safety helmets, safety jackets and foot wears are to be provided as per requirement and nature of job to all male/female workers.
 - ii) Safety belts, protective Goggles, Hand gloves etc are to be provided as per requirement and nature of job to all male/female workers.

25.3 RECOVERIES

- a) **Deployment of Technical Manpower:** The engineers shall be deployed as per the approved program for execution of work/ site requirement. Recovery shall be as defined in Schedule "F".
- b) **Deployment of Plants and Machinery:** The Plants and Machineries required for the works shall be deployed as per the approved program for execution of work/ site requirement. The program shall be approved by the Engineer-in-Charge. The recoveries shall be as defined in **Sheet - "A"** enclosed in Special Conditions of Contract. The program shall be approved by the Engineer-in-Charge.

- 25.4 However, these recoveries as stipulated above do not relieve the contractor to pay, levy of compensation for delay as per clause no. 2 of GCC, in case work is not completed within the stipulated time.

26. APPARTITIONING OF WORK

The Airports Authority of India reserves the right to appartition the work at different levels amongst not more than two contractors, by negotiations if necessary.

27. USE OF READYMIX CONCRETE

The contractor is allowed to use Ready Mix Concrete (RMC) from the batching plant as approved by the Engineer-in-Charge subjected to meeting Technical Specification of respective item. Also, the contractor can use admixture to increase the workability of the concrete. However, nothing shall be paid extra for using RMC, admixture and transportation to site of work in transit mixer for all leads etc., reason what so ever. The concrete shall be paid into the respective item.

28. PERFORMANCE

The contractor shall perform all works in substantial and acceptable manner in accordance with the plans and specifications and in accordance with explanatory drawings, details and instructions as may be given by the Engineer-in-Charge from time to time.

The contractor shall provide and take all necessary actions for the proper execution of the works according to the true intent and meaning of the drawing and specifications taken together.

29. DIFFERENCE BETWEEN FIRST LOWEST BIDDER AND SECOND LOWEST BIDDER

Final bill will be worked out at the accepted tender rates and also with quoted rates of second lowest. The amount of final bill to be paid will be restricted to the lowest of the two.

30. In partial modification of GCC Clause no. 20(A), the contractor shall intimate his PF account code no. allotted by regional PF commissioner and ESI registration no. allotted by ESI Corporation after award of work and shall continue to have valid PF account code no. and ESI registration no. till actual completion of the contract.

31. PRICES/ LEVY/ TAXES

31.1 Taxes:

31.1.1 Rates to be quoted by the parties, should be inclusive of all taxes, duties, CESS, fee, royalty charges etc. levied under any statute but exclusive of GST for all the items.

31.1.2 However, GST, as applicable, shall be paid to the contractor, for any taxable supply/services/construction rendered by the agency to AAI, against a valid GST invoice as per terms and conditions of the contract.

31.1.3 In case supplies/services/works involve imports; the same should be identified separately. Basic Custom Duty & IGST will be paid directly by AAI by utilizing EPCG license/ Duty Credit Scrip under Service Export from India Scheme (SEIS) of Govt of India.

31.2 Conditions for reimbursement of levy/taxes if levied after receipt of tenders:

31.2.1 Rates to be quoted by the parties, shouldbe inclusive of all taxes, duties, CESS, fee, royalty charges etc. levied under any statute applicable on last stipulated date of

receipt of tender including extension if any but exclusive of GST. No adjustment i.e., increase or decrease shall be made for any variation in the rate of GST, Building and Other Construction Workers Welfare Cess or any tax, levy or cess applicable on inputs.

However, effect of variation, as per Govt. order after the last date of receipt of tender including extension if any, in rates of GST or Building and Other Construction Workers Welfare Cess or imposition or repeal of any other tax, levy or cess applicable on output of the works contract shall be adjusted on either side, increase or decrease.

Provided further that for Building and Other Construction Workers Welfare Cess or any tax (other than GST), levy or cess varied or imposed after the last date of receipt of tender including extension if any, any increase shall be reimbursed to the contractor only if the contractor necessarily and properly pays such increased amount of taxes/levies/cess.

Provided further that such increase in tax/levy/cess including GST shall not have reimbursed if made in the extended period of contract for which the contractor alone is responsible for delay as determined by authority for extension of time under Clause 5 in Schedule F.

- 31.2.2 The contractor shall keep necessary books of accounts and other documents for the purpose of this condition as may be necessary and shall allow inspection of the same by a duly authorized representative of AAI or the Engineer-in-Charge and further shall furnish such other information /document as the Engineer-in-Charge may require from time to time.

The contractor shall, within a period of 30 days of the imposition of any such further tax or levy or cess, give a written notice thereof to the Engineer-in-charge that the same is given pursuant to the condition, together with all necessary information/documents relating thereto.

32. SITE CONDITIONS, REQUIREMENTS AND SOURCES OF MATERIALS

- a) The contractor shall be responsible for the true and proper setting out of the work and for the correctness of the positions, levels and dimensions and alignments of all parts of the works and for the provisions of all necessary applications and labour in connections therewith.
- b) If any time during the progress of the work any error may appear or arise in the position, levels, dimension or alignments of any part of the work the contractor is required to rectify the same at his own expenses to the satisfaction of the Engineer-in-Charge.
- c) The checking or any setting out of any line by the Engineer-in-Charge or his representative shall not relieve in any way the contractor of responsibility for the correctness thereof.
- d) The contractor should ensure establishment of reference points for coordinates, bench marks, center of pillars etc. for performing all the functions/uses till the physical completion of work.
- e) The contractor shall also keep proper record of such permanent bench marks established denoting therein their correct levels.
- f) The work establishing all such bench marks shall be carried out only by experienced staff of the contractor with the help of precision instrument

suitable for this type of work. The instruments shall be checked/calibrated for their accuracy and for permanent adjustment before the commencement of the work and also frequent intervals during the progress of the work.

- g) All such bench marks established by the contractor shall be subjected to check and approval of the Engineer-in-Charge or his authorized representative and variations noticed in the work as a result of improper establishment or maintenance of such bench marks shall be made proper by the contractor at his own expense.
- h) The contractor has to adjust his work and progress to work in co-ordination with other agencies working at site.
- i) The materials such as Good Earth, Moorum, Coarse and Fine aggregates etc. shall be brought to site only after approval of the quarry / source by the Engineer-in-Charge.

33. NUISANCE

The Contractor shall not at any time do, cause or permit any nuisance on the Site or do anything which shall cause unnecessary disturbance or inconvenience to owners, tenants or occupiers of other properties near the Site and to the Public generally.

34. WATCH AND WARD OF SITE

The Contractor shall provide and maintain round the clock security of the site and project office at his own expense including area lighting and deployment of adequate security staff for the protection of the Works or for the safety and convenience of those employed on the Works.

35. DUTIES AND POWERS OF REPRESENTATIVES OF ENGINEER-IN-CHARGE

The duties of the representative of the Engineer-in-Charge, are to watch and supervise the Works and to test and examine any materials to be used or workmanship employed in connection with the Works. He shall have no authority to order any work involving any extra payment by AAI nor to make any variation in the works.

- 35.1 The Engineer-in-Charge may from time to time in writing delegate to his Representative any of the powers and authorities vested in the Engineer-in-Charge and shall furnish to the Contractor a copy of all such written delegation of powers and authorities. Any written instruction or written approval given by the Representative of the Engineer-in-Charge to the Contractor within the terms of such delegations shall bind the Contractor and AAI as if it had been given by the Engineer-in-Charge.
- 35.2 Failure of the Representative of the Engineer-in-Charge to disapprove any work or materials shall not prejudice the power of the Engineer-in-Charge thereafter to disapprove such work or materials and to order the pulling down, removal or breaking up thereof.
- 35.3 If the Contractor shall be dissatisfied with any decision of the Representative of the Engineer-in-Charge he shall be entitled to refer the matter to the Engineer-in Charge who shall thereupon confirm, reverse or vary such decision.

36. WORK DURING NIGHT OR ON SUNDAYS AND HOLIDAYS:

Subject to any provisions to the contrary contained in the Contract, works shall be carried out during night or on Sundays or on authorized holidays with the permission of the Engineer-in-Charge.

37. MINIMUM PLANT & MACHINERY TO BE PROVIDED BY THE CONTRACTOR

The contractor should deploy required T & P for execution of the work as per the provisions of Tender Document & as per agreed work program within stipulated duration as mentioned in the relevant undertaking (Annexure-4), for deployment of Plant & Machinery. The contractor must ensure deployment of the T & P within the given time period.

38. STRUCTURAL DESIGN AND STRUCTURAL DRAWINGS:

The Structural design shall be as per the relevant BIS Code and sound Engineering practice. The structural designs and drawings along with the output file shall be submitted to the EIC by the contractor and same shall be got vetted / approved from IITs/ NIT by AAI independently and the fee for the same shall be paid directly by AAI. The fee so paid towards vetting charges shall be adjusted out of the bill payable to the contractor. No additional time period or any cost shall be allowed to the contractor for vetting of designs and drawings. The contractor shall be fully responsible for soil testing & structural design services performed by him and shall be in accordance with the accepted standards of safety.

39. DIVERSION OF WATER:

During the execution of work contractor shall make necessary arrangement for pumping out water (Internal / External) from work site to avoid disturbance/ hindrance in the work. Necessary temporary arrangement to divert the running water (if required) shall be done by the contractor for timely completion of work. No extra payment shall be made for Pumping & diversion of water. Contractor should also ensure that, no flooding of water occurs inside or outside the operational area during the execution of the work.

40. MIX DESIGN/ JOB MIX:

The Engineer-in-Charge of work will ensure that the mix design report received from approved Laboratory / Engg. College as per NIT conditions, is got approved from concerned General Manager (Engg.) of Project/Work.

41. NON-AVAILABILITY OF OPC

In case of non-availability of Ordinary Portland Cement (OPC), Portland Pozzolana Cement (PPC) may be used in Concrete works with prior approval of Engineer-in-charge including cost adjustment, if any before the same is used in the work.

42. APPROVAL FROM STATUTORY BODIES

Agency to mobilize plant & machinery, materials and prepare for works including test patches well in advance of getting operational clearance from Statutory Bodies like DGCA, IAF, etc. No claims for idling, loss or profit etc., till receipt of such operational clearance from statutory bodies, shall be entertained.

43. Panel Layout Plan for PQC

The Expansion/ Construction/Dummy joints shall be provided as per layout approved by the Engineer-in-Charge and the tentative panel size shall be in the range of 20 to 25 Sqm.

LIST OF TOOLS & PLANTS

S. No.	Tools, Plants & Machineries	Nos.	Rate of Recovery (Each)
1.	Wet Mix Plant	1	Rs. 8,000/day
2.	Loader	1	Rs. 6,250/day
3.	Hydraulic Excavator 0.9 cum bucket capacity	2	Rs. 10,000/day
4.	Motor Grader of blade 3.35mtr.	1	Rs. 24,500/day
5.	Tippers (minimum capacity 6 cum).	10	Rs. 2,125/day
6.	Water Tanker/bowser	2	Rs. 1,500/day
7.	Front End loader	1	Rs. 7,500/day
8.	Paver Finisher	1	Rs. 15,000/day
9.	DG Set 25 KVA	1	Rs. 2,500/day
10.	Slip Form/Fixed form Paver with sensor	1	Rs. 16,250/day
11.	Concrete batching and mixing plant @ 120 cum per hour (effective output)	1	Rs. 24,000/day
12.	Vibrator (Needle type)	2	Rs. 465/day
13.	Calibrated Lab equipment	As required	Rs. 1,000/day (per equipment)
14.	Concrete Joint Cutting Machine	1	Rs. 1,125/day
15.	Trolley mounted flood light with portable power source.	As required	Rs. 5,000/day
16.	Vibratory roller 8 to 10 tonne.	2	Rs. 6,000/day
17.	Static road roller 8 to 10 tonne.	1	Rs. 3,750/day
18.	Total station	1	Rs. 1,000/day

Note: The deployment of the machinery shall be as per the work program and decision of Engineer-in-Charge with regard to recovery for non-deployment based on work program shall be treated as final. Rate of recovery has been considered 25% extra on basic rate for penalty for not providing T&P on site.

Special conditions of contract (Electrical)

1) GENERAL

- i) These special conditions of contract shall be read in conjunction with AAI General Conditions of Contract. These conditions of contract are meant to amplify the specifications, schedule of quantities in addition to those conditions specified as additions or omissions to general conditions of contract, if there are any provisions in the special conditions of contract which are at variance with provision of General Condition of Contract (GCC), the provision in these special conditions shall take precedence.
- ii) The supply/work shall be carried out as per technical specifications and relevant IS Code / CPWD / AAI specifications & norms shall also be applicable.
- iii) AAI reserves the right to inspect or authorize another agency to inspect the materials at site/works. All inspection arrangements shall be the responsibility of the contractor.

2) INTRODUCTION

This special conditions of contract are for "Construction of new Civil Enclave at Jammu Airport(Phase-I). SH: Construction of Apron and associated works for parking of 13 Nos. AB-321 type of Aircraft".

3) DETAILS OF TENDER

The tender specifications consist of the following as shown below: -

- i) Technical specifications
- ii) List of Approved Makes
- iii) Bill of Quantity

4) COMPLETENESS OF TENDER

All sundry fittings, assemblies, accessories hardware items, foundation bolts, termination lugs for electrical connections as required and all other sundry which are useful and necessary for proper assembly and efficient working of the various components of the work shall be deemed to have been included in the tender, whether such items are specifically mentioned in the tender documents or not.

5) METHOD OF EXECUTION

The contractor shall submit his programme of installation at least one week in advance. The contractor shall submit a separate bar chart for installation programme mentioning man hours required so that the work can be done accordingly.

The additional cost if any in engaging the labour for night work shall be included in the rates. Nothing extra shall be paid by AAI in this regard separately.

6) PHASING OF WORKS

The work has to be carried out in phases as approved by AAI from time to time so that the total project work can progress smoothly with least obstruction to the operations and also works of other Contractors/ agencies.

7) COORDINATION WITH CIVILWORKS

It will be the responsibility of contractor to ensure coordination of civil & electrical works viz. timely supply of material & their installation in sync with civil works.

8) MATERIALS

All the materials required for this work should conform to relevant specifications. The copies of Purchase Vouchers/ challan should be produced along with the materials. The type test certificates, routine test certificates and acceptance test certificates are also to be submitted.

9) STORAGE OF MATERIALS

The contractor shall provide proper and adequate storage facilities to protect all the materials and equipment against damage from any cause whatsoever. The watch & ward of the stores, equipment & materials shall be the responsibility of the contractor till the completion, commissioning & handing over to AAI. The land required for stores will be provided by AAI as per respective clause of GCC.

The contractor shall take away the balance of any materials left at the site after commissioning of the system. The cost, if already paid, for such items shall be deducted from the subsequent running bills. AAI shall not be liable to pay for any of the incidental charges connected with the above.

10) SAMPLES

The Contractor shall require providing to AAI samples of all the materials sufficiently in advance free of cost to obtain approval of AAI. Approved samples shall be retained by AAI until the completion of the work and all materials and workmanship incorporated in the work are to conform to the approved samples in all respects. Rejected materials shall be removed from the site immediately under the supervision of AAI.

11) CONSUMPTION OF MATERIALS

Proper record of daily consumption of materials shall be maintained at the site of work for each item as directed by AAI.

12) RESTRICTIONS IN WORKING HOURS

The number of hours working in the area might be restricted due to operational reasons and contractor will not have any claim for extra payment on this account. The contractor's staff working in the operational area will obey the instructions of authorities in clearing the site. Also prior permission has to be obtained before stacking of materials in the premises.

The work shall be done in phases, in close co-ordination with civil /electrical works and other works as directed by AAI.

The contractor shall note that the site for installation will be made available in parts or in phases. It is the responsibility of the contractor to programme his work accordingly. No extra amount will be paid on account of site being made available in phases/parts.

13) CO-ORDINATION

The Contractor shall co-operate and co-ordinate with all other agencies working in the same project, compare plans, specifications and the time schedules and so arrange his work so that there will be no interference during execution of the work. The Contractor shall forward to AAI all correspondence and drawings exchanged. Failure to do so will render the Contractor responsible for subsequent change found necessary and its cost. However, the

Contractor shall arrange necessary facilities to execute the work simultaneously with other agencies. No claim on this account shall be entertained by AAI.

14) PROGRAMME OF WORK AND PROGRESS OF REPORTS

After the acceptance of Tender, the Contractor shall, within 15 days, submit to AAI for approval, a detailed programme taking into account the total time period stipulated in the contract showing the order, the procedure and method in which he proposes to carry out the works.

He shall furnish the particulars in writing, the arrangements for manpower, plant and machinery and all other resources owned and dedicated to this work. Cash flow during the execution of project for procurement of materials and for carrying out the works shall also be furnished.

The programme approved by AAI shall be final and binding on the Contractor. The approval by AAI of such programme, or furnishing of such particulars shall not relieve the Contractor of any of his duties or responsibilities under the contract.

During the progress of work, the contractor shall be required to furnish the resource mobilization plan as required by AAI to keep the target date of completion.

15) TESTING AND MEASURING EQUIPMENTS

Equipment for measurement of work and testing the installation shall be procured by the Contractor for their use at their own cost. The same shall also be made available to AAI without any charges to AAI.

16) TESTING / INSPECTION OF MATERIALS

All the materials to be used in and on every part of the works shall be subjected, from time to time, to such tests as AAI may direct. Such tests shall be performed at the expenses of the Contractor. The samples for tests shall be in all cases selected by AAI. If at any time, any material so tested, fails to meet the acceptance criteria, the same shall be removed from the site of works and other materials substituted. But in the absence of any specified test/acceptance criteria, the decision of AAI shall be final and binding as to whether the said materials shall be accepted or rejected.

The Contractor shall produce on demand from AAI, the necessary test certificates certifying that the materials conform to the technical specifications. However, this clause will not apply to routine testing of materials at the site laboratory of the Contractor.

All tools, instruments, plants and labour/operating personnel for the tests shall be provided by the Contractor at his own cost. For any tests as directed by AAI, that have to be carried out at an outside laboratory, the same should be carried out by the Contractor without any cost to AAI and the cost shall include cost of tests, transportation, freight etc.

17) SITE FOR PLANTS /EQUIPMENT, STACKING OF MATERIALS AND LABOUR

The Contractor shall stack materials at the site of work strictly as per instructions of AAI keeping in view the safety and smooth progress of the project. Nothing extra shall be payable for any extra lead involved in stacking the materials at a reasonable distance away from the work place.

18) CONFORMITY TO IE ACT, IE RULES AND REGULATIONS

All electrical works shall be carried out in accordance with the provisions of Indian Electricity Act-1910, Indian electricity rules – 1956 amended upto date (date of call of tender unless specified otherwise) and the State Electrical Inspectorate. The works shall also conform to relevant Indian Standard Codes of Practice (COP) for the type of work involved.

All materials to be used in work shall be ISI marked.

In all electrical works, relevant safety codes of practices shall be followed.

19) OTHER WORKS

The scope of work includes installation of all equipment including construction of machinery foundations, positioning of foundation bolts, grouting, etc. The contractor should furnish detailed specifications drawings and the same has to be got approved before proceeding for supply/ installation work.

Providing all consumables and hardware such as welding electrodes, sealing compounds, bolts, nuts, washers, gasket material, cement, bricks, graded stone, etc.

The contractor shall be responsible for any damage resulting from his negligence to existing facilities /installations and will restore, replace or repair any such damages at his cost to the complete satisfaction of AAI.

20) DETAILED WORKING DRAWINGS

The detailed execution drawings are to be prepared by the contractor as per the relevant specifications and AAI standards/ specifications/ guidelines and should obtain necessary approvals prior to execution. Drawings provided by AAI, if any, shall at all times be properly correlated before execution. In case of any discrepancy, the same should be brought to the notice of AAI immediately.

21) AS BUILT DRAWINGS

On completion of work, the contractor shall submit to the Engineer-in-Charge, 3 sets of the work completion certificate i/c completion plan, as built drawings, company warranty cards, test certificates, test reports etc.

22) CONTRACTOR'S REPRESENTATIVES, AGENTS AND WORKMEN

The contractor shall depute an experienced electrical supervisor for electrical works. The name of person who shall coordinate with Engineer-in-charge of electrical at station shall be intimated within 15 days of award. The tenderer shall ensure deployment of appropriate qualified and experienced workman for execution of work. To determine the acceptable standard of workmanship.

The contractor is required to inform at least seven days in advance before starting of any new item of work.

All materials or workmanship, which in the opinion of AAI is defective or is unsuitable shall be removed immediately from the site within a reasonable time fixed by AAI failing which, the same shall be removed at the risk and cost of the Contractor. No claim whatever shall be entertained on this account.

23) WORK IN RESTRICTED AREA

As the work is to be carried out in operational area, contractor has to co- ordinate with AAI officials at site and work is to be carried out after getting permission from Authorities. The contractor shall arrange necessary Security Passes for his staff at

his own cost. The contractor and his workmen shall not violate the security regulations.

24) NUISANCE

The Contractor shall not at any time do, cause or permit any nuisance on the site or do anything which shall cause unnecessary disturbance or inconvenience to owners, tenants or occupier of other properties near the site and to the public generally.

25) COMMISSIONING ON COMPLETION

After the work is completed, it shall be ensured that the installation is tested and commissioned. All the test certificates shall be submitted to AAI before handing over of the system along with as build drawings.

26) COMPLETION CERTIFICATE

For all works completion certificate in the pro-forma shall be submitted to AAI, after completion of work.

27) PRICES

The rates quoted shall be inclusive of all taxes & duties (except GST).

The contractor shall be solely responsible to ensure the following:

- a) Sound packing of equipment/components.
- b) Shipment of the items by the due date as per schedule.
- c) Insurance.
- d) Receipt of equipment at site and safe custody till they are installed, tested and commissioned & taken over by AAI.
- e) Execution, installation, testing and commissioning of the installation as specified in the tender.
- f) Handing over of installation to the authorized representative of AAI.

28) GUARANTEE / WARRANTY

All the items of equipment and installations shall be guaranteed to be free from defective workmanship or materials for a period of 12 months from the date of handing over. The Contractor at his own cost shall rectify any defect /replace material that may appear during the period. During this period, the contractor shall without any extra cost, attend to any difficulties and defects that may arise in the day to day operation of the system within 24 hrs of intimation reported by AAI.

The Contractor shall hold himself fully responsible for reinstallation or replace free of cost to AAI during the defect liability period as stipulated hereunder.

- a) Any defective material supplied by the Contractor or defective workmanship of the Contractor.
- b) Any material supplied by AAI which is proved to be damaged or destroyed as a result of defective workmanship by the Contractor.

29) PAYMENT TERMS

AAI shall pay to the contractor in the manner.

A. FOR SITC ITEMS

- i) 70 % of the items on pro rata basis on supply at site and approval by AAI.
- ii) 20 % of the items on installation, testing and approval by AAI.
- iii) 10 % of the items on commissioning and handing over of the system.

B. FOR SUPPLY ITEMS

- i) 85 % of the items on pro rata basis on supply at site, testing and approval by AAI.
- ii) 15 % of the items on Testing & Acceptance.

C. For Installation, Testing and Commissioning

- i) 80% of Item rate on Installation of Equipments
- ii) 20% of Item rate on Testing & Commissioning.

All the above payments will be made after deducting the Security deposit, Labour Cess, Income Tax, recoveries/penalty (if any) etc. as applicable.

.....

FORM-A

DETAILS OF SIMILAR WORKS COMPLETED DURING THE LAST SEVEN YEARS ENDING ON ...

S. No.	Name of work/ project and Location	Name and Address of client	Awarded Cost of work (in Rs. Lakhs)	Completion Cost	Date of commencement as per contract	Stipulated date of completion	Actual date of completion	Whether the work was done on back to back basis Yes/No
1	2	3	4	5	6	7	8	9

**SIGNATURE (S) OF BIDDER (S)
(WITH STAMP)**

Financial Information

1. Financial Analysis - Details to be furnished profit and loss account for the last five years duly certified by the Chartered Accountant as submitted by the applicant to the Income - Tax Department

Fig in lakhs Rs.

Sl. No.	Particulars	Financial Year (Last five years)				
		2018-19	2019-20	2020-21	2021-22	2022-23
1.	Gross Annual Turnover					
2.	Turn-Over on Construction Works					
3.	Profit/loss after Taxes (consolidated)					
4.	Profit/loss after Taxes (standalone)					

The bidder should give information strictly in above format.

2. Financial arrangements for carrying out the proposed work.

Unique Document Identification Number (UDIN).....

Signature of Chartered Accountant with Seal

SIGNATURE (S) OF BIDDER (S)

CERTIFICATE OF NET WORTH FROM CHARTERED ACCOUNTANT

"This is to certify that as per the audited balance sheet and profit & loss account during the financial year , the Net Worth of M/s (Name & Registered Address of individual/firm/company), as on 31.03.2023 is Rs after considering all liabilities. It is further certified that the Net Worth of the company has not eroded by more than 30% in the last three years ending on 31.03.2023"

Unique Document Identification Number (UDIN).....

Signature of Chartered Accountant _____

Name of Chartered Accountant _____

Membership No. of ICAI _____

Date and Seal _____

**FINANCIAL DATA
(WORK DONE DURING THE LAST FIVE FINANCIAL YEARS)**

Name of the Tenderer: -

S. No.	Description	Financial Data for Last 5 Audited Financial Years				
		2018-19	2019-20	2020-21	2021-22	2022-23
1.	Maximum value of Civil Engineering Works executed in any one year during the last 5 (five) years (updated the completed works to current costing level of enhancing at a simple rate of interest @ 7% per annum.)					
NOTE 1. All such documents reflect the financial data of the tenderer or member in case of JV / Consortium, and not that of sister or parent company. 2. The financial data in above prescribed format shall be certified by Chartered Accountant/ Company Auditor under his signature and stamp in original along with membership no						

Unique Document Identification Number (UDIN).....

Signature of Chartered Accountant with Seal

SIGNATURE (S) OF BIDDER (S)

WORKS IN HAND
(At the time of submission of bid)

Name of the Bidder: -

Name and Brief particulars of contract (Clearly indicate the part of the Work assigned to the bidder(s))	Name of client With telephone Number and fax number	Contract Value In Rupees (Give only the value of Work assigned to the bidder (s))	Value of balance work yet to be done in Rupee as on Bid Submission End date.	Value of work to be done in 'T' i.e. 18 Months i.e. 1.5 Years (Completion Period of the Project) w.e.f. Bid Submission End date.	
				From	From
				To	To

Unique Document Identification Number (UDIN).....

Signature of Chartered Accountant with Seal

SIGNATURE (S) OF BIDDER (S)

DETAILS OF EARNEST MONEY DEPOSIT

Name of Work "Construction of New Civil Enclave at Jammu Airport (Phase-1). SH:
Construction of Apron and associated works for parking of 13 Nos. AB-321 type of Aircraft

(Tender ID: 2023_AAI_173064_1)

Online Payment/Bank Guarantee (BG) : No.
Dated
Validity; -----

Name of Bank :
.....
.....
.....

Amount : Rs

**SIGNATURE OF THE TENDERER
WITH COMPANY SEAL**

Form of Bank Guarantee against Earnest Money Deposit

WHEREAS, contractor _____ (Name of contractor) (hereinafter called "the contractor") has submitted his tender dated _____ (date) for the construction of " _____"(name of work) (hereinafter called "the TENDER").

KNOW ALL PEOPLE by these presents that we _____ (name of bank) having our registered office at _____ (hereinafter called "the bank") are bound unto Airports Authority of India through its "Bid Manager/Engineer-In-charge/ AAI's Authorized representative" (Designation with address) (hereinafter called the "Bid Manager/Engineer-In-charge/ AAI's Authorized representative", as the case may be which expression shall unless repugnant to the subject or contract includes its administrators, successors and assigns) in the sum of Rs. _____ (Rs. In words _____) for which payment will truly to be made to the said "Bid Manager/Engineer-In-charge/ AAI's Authorized representative" the bank binds itself, his successors and assigns by these presents.

SEALED with the Common Seal of the Bank this _____ day of _____ 20_____
THE CONDITIONS of this obligation are:

- (1) If after tender opening the Contractor withdraws, his tender during the period of validity of tender (including extended validity of tender) specified in the Form of Tender.
- (2) If the contractor having been notified of the acceptance of his tender by the "Bid Manager/Engineer-In-charge/ AAI's Authorized representative".
 - a) Fails or refuses to execute the form of Agreement in accordance with the instructions to contractor, if required-
OR
 - b) Fails or refuses to furnish the performance guarantee, in accordance with the provisions of tender document and instructions to contractor,
OR
 - c) Fails or refuses to start the work, in accordance with the provisions of the contract and instructions to contractor,
OR
 - d) Fails or refuses to submit fresh bank guarantee of an equal amount of this bank guarantee against security deposit after award of contract.

We undertake to pay to the "Bid Manager/Engineer-In-charge/ AAI's Authorized representative" either up to the above amount or part thereof upon receipt of his first written demand, without the "Bid Manager/Engineer-In-charge/ AAI's Authorized representative" having to substantiate his demand, provided that in his demand the "Bid Manager/Engineer-In-charge/ AAI's Authorized representative" will note that the amount claimed by him is due to him owing to the concurrence of one or any of the above conditions, specifying the occurred condition or conditions.

This guarantee will remain in force up to and including the date* ____ after the deadline for submission of tender as such deadline is stated in the instructions to contractor or as it may be extended by the "Bid Manager/Engineer-In-charge/ AAI's Authorized representative", notice of which extension (s) to the bank is hear by waived. Any demand in respect of this guarantee should reach the bank not later than the above date.

DATE
WITNESS
(SIGNATURE NAME AND ADDRESS)

SIGNATURE OF THE BANK
SEAL

*Date to be worked out on the basis of validity period of 6 months from last date of receipt of tender.

Note: The non-judicial stamp paper shall be only in the name of Bank who is issuing bank Guarantee failing which bank guarantee shall not be accepted and tender shall be rejected.

Annexure-1B

Date _____

To

The Manager

(Bank)

(Branch)

Sub: Inclusion of unique identifier code of AAI while transmitting BG cover messages where beneficiary bank is ICICI Bank (IFSC-ICIC0000007).

Dear Sir /Ma'am,

I/We, _____, request you to include unique identifier **AAICORHQ** in field **7037** of the SFMS cover messages **IFN COV 760 (for BG issuance) and IFN COV 767 (for BG amendment)** while transmitting the same to the beneficiary bank **(ICICI Bank - IFSC-ICIC0000007)**.

Thanking You,

(Vendor /Customer/Concessionaire)

**Format for Letter of undertaking from the Depositor to Bank
(To be submitted along with Security Deposit / Earnest Money / Performance Guarantee
to Airports Authority of India)**

(To be submitted in the Letter head of the firm)

The Branch Manager,
.....Bank,
.....

**Sub: - My / Our Bank Guarantee bearing No.....dated for amount..... Issued in favour
of Airports Authority of India A/c.....**

Sir,

The subject Bank Guarantee is obtained from your bank for the purpose of **Security Deposit / Earnest Money / Performance Guarantee** on account of contract awarded / to be awarded by M/s Airports Authority of India to me / us.

I hereby authorize the Airports Authority of India in whose favour the deposit is made to close the subject Bank Guarantee before maturity/ on maturity toward adjustment of dues without any reference /consent /notice from me / our side and the bank is fully discharged by making the payment to Airport Authority of India.

Signature of the Depositor

Place:

Date:

TENDER ACCEPTANCE LETTER
(To be given on Contractor's Letter Head)

Date:

To,

Asstt. General Manager, Engg(C)-NR,
Airports Authority of India,
Rajiv Gandhi Bhawan,
Safdarjung Airport,
New Delhi-110003

Sub: Acceptance of Terms & Conditions of Tender.

Name of Work- "Construction of New Civil Enclave at Jammu Airport (Phase-1). SH: Construction of Apron and associated works for parking of 13 Nos. AB-321 type of Aircraft

(Tender ID: 2023_AAI_173064_1)

Dear Sir,

1. I/ We have downloaded / obtained the tender document(s) for the above mentioned 'Tender/Work' from CPP Portal web site(s) namely: <https://etenders.gov.in/eprocure/app> as per your advertisement, given in the above mentioned website(s).
2. I / We hereby certify that I / we have inspected the site and read the entire terms and conditions of the tender documents, corrigendum(s) and reply to query if any made available to me/ us which shall form part of the contract agreement and I / we shall abide hereby by the terms / conditions / clauses contained therein.
3. I / We hereby unconditionally accept the tender conditions of AAI's tender documents in its totality / entirety for above mentioned work.
4. I/We declare that I/We have not paid and will not pay any bribe to any officer of AAI for awarding this contract at any stage during its execution or at the time of payment of bills, and further if any officer of AAI asks for bribe/gratification, I will immediately report it to the Appropriate Authority in AAI'.
5. I/ We hereby submitted that I/ We paid/ submitted the required earnest money as per NIT conditions.
6. I / We certify that all information/ documents furnished by our Firm is true & correct and in the event at any stage, the information/ documents is found to be incorrect/ untrue or found violated, then we shall be liable for debarment from tendering in AAI without giving any notice or reason therefore or summarily reject the bid or terminate the contract, without prejudice to any other rights or remedy including the forfeiture of the full said earnest money deposit absolutely.

Yours Faithfully,

(Signature of the Bidder, with Official Seal)

UNDERTAKING REGARDING DEBARMENT/BLACKLISTING/RESTRAINTMENT

Name of Work- "Construction of New Civil Enclave at Jammu Airport (Phase-1). SH: Construction of Apron and associated works for parking of 13 Nos. AB-321 type of Aircraft

(Tender ID: 2023_AAI_173064_1)

I/We (name and post of authorized signatory) on behalf of (Name of firm) do here by solemnly affirm and declare as follows:

- i) Our firm is not restrained/ debarred/ blacklisted by Airports Authority of India (AAI)/ Ministry of Civil Aviation(MoCA)/ Dept. of Expenditure(DoE), Ministry of Finance and the debarment/ blacklisting/ restraintment is not in force as on last date of opening of tender (Envelope-I, normally called as technical bid).
- ii) None of Proprietor /Partners /Board Members /Directors of M/s.....
(Name of firm) has remained Proprietor /Partner /Board Member /Director in any firm which stands debarred /blacklisted/restrained by AAI/ MoCA/ DoE and the debarment/ blacklisting/ restraintment is not in force as on last date of opening of tender (Envelope-I, normally called as technical bid).
- iii) Our firm understands that if our firm either debarred before the date of opening of tender (first bid, normally called as technical bid, in case of two packet/two stage bidding) or debarred before the date of contract by AAI/ MoCA/ DoE (Debarment applicable for all Ministries/ Departments), our bid is liable to be rejected at that stage.
- iv) Our firm understands that at any stage, if above statements are found to be false, our firm shall be liable for debarment from bidding in AAI, apart from any other appropriate contractual legal action including debarment/ blacklisting/ restraintment, termination of the contract etc. as deemed fit.

Date:

[Signature and name of the authorized signatory of the firm]

Place:

Note: Above undertaking is to be given on company's letter head.

UNDERTAKING FOR DEPLOYMENT OF T&P
(on Agency/ Firms letter head)

Name of Work: Construction of New Civil Enclave at Jammu Airport (Phase-1). SH: Construction of Apron and associated works for parking of 13 Nos. AB-321 type of Aircraft

(Tender ID: 2023_AAI_173064_1)

Name of Contractor / Firm:

- I / we have applied for issue of tender for the work of “**Construction of New Civil Enclave at Jammu Airport (Phase-1). SH: Construction of Apron and associated works for parking of 13 Nos. AB- 321 type of Aircraft**” and hereby undertake that: -
- I / we have gone through the tender documents and drawings in its entirety, visited the site and have understood the nature of work to be executed.
- I / we will deploy adequate T&P in working condition with adequate standby arrangement for efficient / timely execution of the work.
- I / we have submitted the details of T&P owned by us and undertake to procure or take on lease the balance T&P for the work as per requirement of the work matching with the work programme.
- I / we will abide by any instructions by AAI for such procurement / arrangement of T&P on lease as is considered necessary for efficient / timely execution of work.

Date:

Signature of Contractor:

Witness:

Performa for declaration by Bidder for compliance of order on Restriction under Rule 144(xi) of the General Financial Rules (GFRs)-2017

(Scanned copy to be submitted by Bidder in Envelope-I on letter head of Company/Firm)

Name of Work- "Construction of New Civil Enclave at Jammu Airport (Phase-1). SH: Construction of Apron and associated works for parking of 13 Nos. AB-321 type of Aircraft

(Tender ID: 2023_AAI_173064_1)

I, the undersigned, _____ (full names), do hereby declare, in my capacity as _____ of M/s _____ (**Name of company/Firm**) that:

- 1) I am competent to swear this undertaking on behalf of M/s _____ (**Name of company/Firm**) _____
- 2) I have read the Order(s) on the subject of Restrictions under Rule 144 (xi) of the General Financial Rules (GFRs), 2017 regarding restrictions on procurement from a bidder of a country which shares a land border with India and comply to all the provisions of the Order(s).
- 3) I certify that M/s _____ (Name of company/Firm) _____ is not from such a country / is from such a country, has been registered with the Competent Authority (strike out whichever is not applicable).** I hereby certify that this BIDDER fulfills all requirements in this regard and is eligible to be considered [**Where applicable, evidence of valid registration with the Competent Authority is attached**].
- 4) I understand that the submission of incorrect data and / or if certificate/ declaration given by M/s _____ (**Name of company/Firm**) _____ is found to be false, this would be a ground for immediate termination and further legal action in accordance with law as per Clause 12 of the Public Procurement Order on Restrictions under Rule 144 (xi) of the General Financial Rules (GFRs), 2017.

Signature and name of the authorized signatory of the firm
with Rubber Stamp

Date:
Place:
Tender

FORM OF BANK GUARANTEE TO SECURE A LUMP-SUM/ MOBILISATION ADVANCE

(On Non-Judicial Stamp Paper)

To

The Airports Authority India

1. In consideration of the Airports Authority India having its head office at New Delhi (hereinafter called "AAI" which expression shall unless repugnant to the subject or context include its administrators, successors and assigns) having agreed under the terms and conditions (Contract Agreement No. _____ dated _____ made between _____ * _____ and AAI in connection with the work of (hereinafter called "the said contract"), to make at the request of the Contractor a lump-sum advance of Rs. _____ (Rupees _____ only) for utilizing it for the purpose of the Contract on his furnishing a guarantee acceptable for AAI we, the Bank (hereinafter referred to as "the said Bank") and having our registered office at do hereby guarantee the due recovery by AAI of the said advance with interest thereon -as provided according to the terms and conditions of the Contract. If the said Contractor fails to utilize the said advance for the purpose of the Contract and/or the said advance together with interest thereon as aforesaid is not fully recovered by AAI we, the _____ Bank hereby unconditionally and irrevocably undertake to pay to AAI on demand and without demur to the extent of the said sum of Rs _____ (Rupees _____ only) any claim made by AAI on us for the loss or damage caused to or suffered by AAI by reason of not being able to recover in full the said sum of Rs _____ (Rupees _____ only) with interest, as aforesaid.
2. We, the _____ Bank, further agree that AAI shall be the sole judge of and as to whether the said Contractor has not utilized the said advance or any part thereof for the purpose of the Contract and the extent of loss or damage caused to or suffered by AAI on account of the said advance together with interest not being recovered in full and the decision of AAI that the said Contractor has not utilized the said advance or any part thereof for the purpose of the Contract and as to the amount or amounts loss or damage caused to or suffered by AAI should be final and binding on us.
3. We, the said Bank, further agree that the Guarantee therein contained shall remain in full force and effect during the period that would be taken for the performance of the said Contract and till the said advance with interest has been fully recovered and its claims satisfied or discharged and till the Accepting Authority of the contract certifies that the said advance with interest has been fully recovered from the said Contractor, and accordingly on discharges this guarantee subject, however, that AAI shall have no claim under this Guarantee after 90 (Ninety) days from the date of completion of the said contract, i.e., _____ (date) or from the date of cancellation of the said Contract, as the case may be, unless a notice of the claim under this Guarantee has been served on the Bank before the expiry of the said period in which case the same shall be enforceable against the Bank notwithstanding the fact, that the same is enforced after the expiry of the said period.
4. AAI shall have the fullest liberty without effecting in any way the liability of the Bank under this Guarantee or Indemnity, from time to time to vary any of the terms and conditions of the said Contract or the advance or to extend time of performance by the said Contractor or to postpone for any time and from time to time any of the powers exercisable by it against the said Contractor and either to enforce a forbear from enforcing any of the terms and conditions governing the said Contract or the advance or securities available to AAI and the said Bank shall not be released from its liability under these presents by any exercise by AAI of the liberty with reference to the matters aforesaid or by reason of time being given to the said Contractor or any other forbearance, act or omission on the part of AAI or any indulgence by AAI to the said Contractor or of any other matter or thing whatsoever after I

which under the law relating to sureties would but for this provisions have the effect of so releasing the Bank from its such liability.

5. It shall not be necessary for AAI to proceed against the Contractor before proceeding against the Bank if and the Guarantee herein contained should be enforceable against the Bank notwithstanding any security which AAI may have obtained or obtain from the Contractor shall at the time when proceedings are taken against the Bank hereunder be outstanding or unrealised.
6. We, the said Bank, lastly undertake not to revoke this Guarantee during its currency except with the previous consent of AAI in writing and agree that any change in the Constitution of the said Contractor or the said mess Bank shall not discharge our liability hereunder.

In presence of: Dated this ____ Day of _____

WITNESS

1. For and on behalf of (The Bank)

Signature _____
2. Name & Designation _____
Authorisation no. _____
Name & Place _____
Bank's Seal _____

The above Guarantee is accepted by Airports Authority of India.
for and on behalf of Airports Authority of India.

Signature _____
Name & Designation _____
Dated _____

Note:

***For Proprietary Concerns**

Sh. _____ son of _____ resident of _____ carrying on business under the name and style of _____ at _____ (hereinafter called "the said Contractor" which expression shall unless the context requires otherwise include his heirs, executors, administrators and legal representatives).

For Partnership Concerns

1. Sh. _____ son of _____ resident of _____
2. Sh. _____ son of _____ resident of _____
carrying on business in co-partnership under the name and style of _____ at _____ (hereinafter collectively called "the said contractor" which expression shall unless the context requires otherwise include each of them and their respective heirs, executor's administrators and legal representatives).

For Companies

M/s _____ a Company registered under the Companies Act, 1956 and having its registered office in the State of (Hereinafter called "the said Contractor" which expression shall unless the context requires otherwise include its administrators, successors and assigns).

Work Diary

PART - A

1. Name of Work.....
2. Contract Agreement No
3. Date of Acceptance
4. Name and Registered address of Contractor.....
5. Contract Sum and /or percentage on Schedule of Rate.....
6. Period of Contract.....
7. Name and local address of Contractor/ Contractor's Agent
8. Date of First Works order.....
9. Date of handing over the site to contractor
10. Date of Commencement of work
11. Stipulated date of completion of Contract.....
12. Suspension orders showing duration and authority.....
13. Extended date of completion with authority
14. Date of actual completion of work
15. Date of work taken over.....
16. Date of expiry of Maintenance Period

Work Diary

PART - B

DAILY RECORD

1. Weather

2. Workers engaged by Contractor

Skilled				Unskilled			
Category	No	Category	No	Category	No	Category	No
Concreter		Paviour		Glazier		Mate	
Bricklayer		Tiller		Plumber		Bhisty	
Mason		Painter			Mazdur (man)		
Carpenter		Polisher			Mazdur (women)		
Joiner					Mazdur (boy)		

3. Important materials brought on site with approximate quantities (rejection, if any, to be stated).

Schedule 'B' materials		Contractor's materials		Rejections	
Materials	Quantity	Materials	Quantity	Materials	Quantity

4. Details of plant, equipment and transport and transport working on site.

	T & P Hired under Schedule 'C'		Contractor's T&P equipment & transport	
T & P	Quantity	Remarks regarding breakdown maintenance etc	Quantity	Remarks regarding breakdown maintenance etc
Road Roller Concrete.				
Mixer Tar Roller Transport				

5. Brief particulars of work in progress

6. Important stages completed and passed

7. Remarks of Visiting Officer

Dated signature of Engineer-in-charge

Date of signature of contractor or
representative or his authorized agent

Undertaking for GST Registration & Complying its Provisions

(Scanned copy to be submitted by Bidder in Envelope-I on letter head of the Company/Firm)

Name of Work- "Construction of New Civil Enclave at Jammu Airport (Phase-1). SH: Construction of Apron and associated works for parking of 13 Nos. AB-321 type of Aircraft

(Tender ID: 2023_AAI_173064_1)

I/We (**Name of company / Firm**) (hereby undertake that:

1. I/we are registered under GST and our GSTIN is..... (to be filled by bidder) and compliant of GST provision.
2. In case of non-compliance of GST provisions and blockage of any input credit, I/we shall be responsible to indemnify AAI.
3. All input credits have been passed on to AAI by me/us.

Signature and name of the authorized signatory of the firm with Rubber Stamp

Date:

Place:

UNDERTAKING REGARDING COMPLIANCE OF MINIMUM WAGES

(Scanned copy to be submitted by Bidder in Envelope-I on letter head of the Company/Firm)

Name of Work- "Construction of New Civil Enclave at Jammu Airport (Phase-1). SH: Construction of Apron and associated works for parking of 13 Nos. AB-321 type of Aircraft

(Tender ID: 2023_AAI_173064_1)

I, _____, age _____ years
S/o _____ Proprietor/Managing Partner/Managing Director of M/s **(Name of company/Firm)** _____ having address _____ do hereby solemnly affirm and state as follows: -

I am competent to swear this undertaking on behalf of M/s **(Name of company/Firm)** _____ and hereby confirm that I am fully complying with the legal obligations with regard to payment of minimum wages as per the minimum wages Act-1948 and deduction of provident Fund Authorities as per EPF & MP Act-1952 and Contract Labour (Regulation & Abolition) Act-1970 amended upto date.

Signature and name of the authorized signatory of the firm with Rubber Stamp

Date:

Place:

INDENTURE FOR SECURED ADVANCES

(Reference Clause 10 B)

(For use in cases in which the contract is for finished work and the contractor has entered into an agreement for the execution of a certain specified quantity of work in a given time)

THIS INDENTURE made the..... day of20..... BETWEEN
(hereinafter called the Contractor which expression shall where the context so admits or implies be deemed to include his executors administrators and assigns) of the one part and the CHAIRMAN, AAI (hereinafter called the AAI which expression shall where the context so admits or implies be deemed to include his successors in office and assigns) of the other part.

WHEREAS by an agreement dated..... (hereinafter called the said agreement) the Contractor has agreed AND WHEREAS the Contractor has applied to the AAI that he may be allowed advances on the security of materials absolutely belonging to him and brought by him to the site of the works the subject of the said agreement for use in the construction of such of the works as he has undertaken to execute at rates fixed for the finished work (inclusive of the cost of materials and labour and other charges) AND WHEREAS the AAI has agreed to advance to the Contractor the sum of Rupees on the security of materials the quantities and other particulars of which are detailed in Accounts of Secured Advances attached to the Running Account Bill for the said works signed by the Contractor onand the AAI has reserved to himself the option of making any further advance or advances on the security of other materials brought by the Contractor to the site of the said works. Now THIS INDENTURE WITNESSETH that in pursuance of the said agreement and in consideration of the sum of Rupeeson or before the execution of these presents paid to the Contractor by the AAI (the receipt whereof the Contractor doth hereby acknowledge) and of such further advances (if any) as may be made to him as aforesaid the Contractor doth hereby covenant and agree with the AAI and declare as follows: -

- (1) That the said sum of Rupeesso advanced by the AAI to the Contractor as aforesaid and all or any further sum or sums advanced as aforesaid shall be employed by the Contractor in or towards expediting the execution of the said works and for no other purpose whatsoever.
- (2) That the materials detailed in the said Account of Secured Advances which have been offered to and accepted by the AAI as security are absolutely the Contractor's own property and free from encumbrances of any kind and the contractor will not make any application for or receive a further advance on the security of materials which are not absolutely his own property and free from encumbrances of any kind and the Contractor indemnifies the AAI against all claims to any materials in respect of which an advance has been made to him as aforesaid.
- (3) That the materials detailed in the said Account of Secured Advances and all other materials on the security of which any further advance or advances may hereafter be made as aforesaid (hereinafter called the said materials) shall be used by the Contractor solely in the execution of the said works in accordance with the directions of the Engineer-in-Charge of the project (hereinafter called the Engineer-in-Charge) and in the term of the said agreement.
- (4) That the Contractor shall make at his own cost all necessary and adequate arrangements for the proper watch, safe custody and protection against all risks of the said materials and that until used in construction as aforesaid the said materials shall remain at the site of the said works in the Contractor's custody and on his own responsibility and shall at all times be open to inspection by the Engineer-in-Charge or any officer authorised by him. In the event of the said materials or any part thereof being stolen, destroyed or damaged or becoming deteriorated in a greater degree than is due to reasonable use and wear thereof the

Contractor will forthwith replace the same with other materials of like quality or repair and make good the same as required by the Engineer-in-Charge.

- (5) That the said materials shall not on any account be removed from the site of the said works except with the written permission of the Engineer-in-Charge or an officer authorised by him on that behalf.
- (6) That the advances shall be repayable in full when or before the Contractor receives payment from the AAI of the price payable to him for the said works under the terms and provisions of the said agreement. Provided that if any intermediate payments are made to the Contractor on account of work done than on the occasion of each such payment the AAI will be at liberty to make a recovery from the Contractor's bill for such payment by deducting there from the value of the said materials then actually used in the construction and in respect of which recovery has not been made previously, the value for this purpose being determined in respect of each description of materials at the rates at which the amounts of the advances made under these presents were calculated.
- (7) That if the Contractor shall at any time make any default in the performance or observance in any respect of any of the terms and provisions of the said agreement or of these presents the total amount of the advance or advances that may still be owing to the AAI shall immediately on the happening of such default be repayable by the Contractor to the President together with interest thereon at twelve per cent per annum from the date or respective dates of such advance or advances to the date of repayment and with all costs charges, damages and expenses incurred by the President in or for the recovery thereof or the enforcement of this security or otherwise by reason of the default of the Contractor and the Contractor hereby covenants and agrees with the President to repay and pay the same respectively to him accordingly.
- (8) That the Contractor hereby charges all the said materials with the repayment to the President of the said sum of Rupeesand any further sum or sums advanced as aforesaid and all costs charges, damages and expenses payable under these presents PROVIDED ALWAYS and it is hereby agreed and declared that notwithstanding anything in the said agreement and without prejudice to the powers contained therein if and whenever the covenant for payment and repayment herein before contained shall become enforceable and the money owing shall not be paid in accordance therewith the AAI may at any time thereafter adopt all or any of the following courses as he may deem best :-
 - (a) Size and utilize the said materials or any part thereof in the completion of the said works on behalf of the Contractor in accordance with the provisions in that behalf contained in the said agreement debiting the Contractor with the actual cost of effecting such completion and the amount due in respect of advances under these presents and crediting the Contractor with the value of work done as if he had carried it out in accordance with the said agreement and at the rates thereby provided. If the balance is against the Contractor, he is to pay same to the AAI on demand.
 - (b) Remove and sell by public auction the seized materials or any part thereof and out of the moneys arising from the sale retain all the sums aforesaid repayable or payable to the AAI under these presents and pay over the surplus (if any) to the Contractor. Deduct all or any part of the moneys owing out of the security deposit or any sum due to the Contractor under the said agreement.
- (9) That except in the event of such default on the part of the Contractor as aforesaid interest on the said advance shall not be payable.
- (10) That in the event of any conflict between the provisions of these presents and the said agreement the provisions of these presents shall prevail and in the event of any dispute or difference arising over the construction or effect of these presents the settlement of which has not been herein before expressly provided for the same shall be finally resolved as per provisions of clause 25 of the contract.

In witness whereof the saidandby the order and under the direction of the AAI have hereunto set their respective hands the day and year first above written.

Signed, sealed and delivered by..... the said contractor in the presence of.....

Signature

Witness Name

Address

Signed by.....

by the order and direction of the AAI in the presence of

Signature

Witness Name

Address

Annexure - 11

(To be submitted on Company's Letter Head)

Bid Capacity of Bidder (excluding GST, PF & ESI)

Parameter	In Case of Sole Bidder	In case if Bidder is JV / Consortium	
		Lead Member	Other Member
N			
T	2.5 Years	2 3/4 years	2 3/4 years
A			
Bid Capacity (B)			
% age Participation Share as indicated in JV/Consortium agreement			
Combined Bid Capacity of JV/Consortium			

DELETED

Signature

Chartered Accountant

UDIN NO.

Signature

Authorized Signatory of the contractor/ Firm

FROM FOREIGN / INDIAN PARENT/ PRINCIPAL COMPANY / FIRM
(To be completed on letterhead of Tenderer's Ultimate foreign /Indian Parent /
Principal Company / Firm)

To,
Bid Manager
Airports Authority of India,
Olo Executive Director (Engg.)-NR
Rajiv Gandhi Bhawan, Safdarjung Airport
New Delhi- 110003 (India)

**Name of Work- "Construction of New Civil Enclave at Jammu Airport (Phase-1). SH:
Construction of Apron and associated works for parking of 13 Nos. AB-321 type of
Aircraft
(Tender ID: 2023_AAI_173064_1)**

Dear Sir(s),

We refer to the accompanying Tender for the subject mentioned Services ("SERVICES") by (Name and address of Subsidiary) ("TENDERER") of which we are the ultimate holding company, and hereby request Airports Authority of India, Corporate Head quarter, Rajiv Gandhi Bhawan, Safdarjung Airport, New Delhi - 110003 (AAI) to enter into contract with (Name of foreign / Indian Subsidiary company/ firm) TENDERER for the same. In the event of our subsidiary doing so and in consideration of AAI entering into such contract ("AGREEMENT"), we do hereby enter into the following unconditional and irrevocable undertaking with AAI that:

(1) We guarantee that our subsidiary TENDERER shall duly perform all its obligations contained in the AGREEMENT

(2) If our subsidiary TENDERER shall in any respect fail to perform its obligations under AGREEMENT or shall commit any breach thereof, we undertake, on simple demand by AAI, to perform or to take whatever steps may be necessary to achieve performance of said obligations under AGREEMENT and shall indemnify and keep indemnified AAI against any loss, damages, claims, costs and expenses which may be incurred by AAI by reason of any such failure or breach on the part of our subsidiary TENDERER.

(3) Our guarantee and undertaking hereunder shall be unconditional and irrevocable and, without prejudice to the generality of the foregoing, we shall not be released or discharged from our liability hereunder by: -

a) Any waiver of forbearance by AAI of or in respect of any of our subsidiary TENDERER's obligations under AGREEMENT whether as to payment, time, performance or otherwise howsoever or by any failure by AAI to enforce AGREEMENT or this instrument, or

b) Any alteration to, addition to or deletion from AGREEMENT or the scope of the services to be performed under AGREEMENT, or

c) Any change in the shareholding relationship between ourselves and our subsidiary TENDERER and our guarantee and undertakings hereunder shall continue in force

until all our subsidiary TENDERER's obligation under AGREEMENT and all our obligations hereunder have been duly performed.

(4) We further undertake that our subsidiary TENDERER is eligible for using the experience of our any other 100% subsidiary company I firm and there will not be any issue regarding transfer of relevant rights and liabilities including Intellectual Property Rights till the successful completion of project including Defect Liability I Warrantee/ Guarantee period.

(5) We further undertake I confirm that the said work experience credentials used by our subsidiary Tenderer have neither been used by us nor by any of our other foreign I Indian subsidiary company I firm for this tender. In case it is found violated, applications of all our subsidiary TENDERERS as well as ours are liable to be summarily rejected without assigning any reason thereof & AAI shall be at liberty to forfeit the entire EMD amounts of all our subsidiary tenderers as well as ours, if we are also the applicant tenderers in same tender.

6. This document shall be construed and take effect in accordance with the laws of the Republic of India.

Yours Faithfully,

Signed : -----
Name & Designation :-----
Date :-----

For and on Behalf of
(TENDERER's Ultimate Holding Company)

UNDERTAKING REGARDING ESI & PF

(To be submitted on Company's Letter head)

**Name of Work- "Construction of New Civil Enclave at Jammu Airport (Phase-1). SH: Construction of Apron and associated works for parking of 13 Nos. AB-321 type of Aircraft
(Tender ID: 2023_AAI_173064_1)**

I, (_____, age _____ years S/o _____ proprietor/Managing Partner/ Managing Director of M/s having address do hereby solemnly affirm and state as follows;

I / we have gone through the entire NIT and having understood the same further submit that:

S. No.	Name of Work (For which completion certificate is submitted)	Component included in Completion cost (percentage/Rs.)	Remarks
1		PF :	
		ESI:	
2		PF :	
		ESI:	
3		PF :	
		ESI:	
		PF :	
		ESI:	

Date:
(Signature of the Contractor)

TECHNICAL SPECIFICATIONS (CIVIL)

1.00 PREAMBLE

1.01 These technical specifications shall be read in conjunction with the various other documents forming the contract, namely Notice Inviting Tender & Instructions to Tenderers, Conditions of Contract, Special Conditions of Contract, Bill of Quantities and other related documents, together with any addenda thereto issued.

2.0 SCOPE OF WORK

2.01 The work to be carried out under this contract shall consist of various items as per description of works contained in the Bill of Quantities. Any discrepancy between the details given in Bill of Quantities and that provided in Technical Specifications of the corresponding items, the provisions of the Bill of Quantities shall take precedence.

2.02 The item rates quoted by the Contractor shall, unless otherwise specified also include compliance with/supply of the following:-

- a) General works such as setting out, clearance of site before setting out and clearance of works after completion.
- b) A detailed BAR Chart program for the construction and completion of works including updating of all such activities on the basis of decisions taken at the periodic site review meetings as directed by the Engineer-in-Charge.
- c) Samples of various materials proposed to be used on the work for conducting tests thereon is required as per the provisions of the contract.
- d) Design of mixes as per relevant clauses of the specifications given proportions of ingredients, source of aggregates and binder along with accompanying trial mixes to be submitted to the Engineer-in-Charge for his approval before use on the works.
- e) Setting of field testing laboratory with all required apparatus and staffs for conducting day to day quality control tests.
- f) Any other item of work which is not specifically provided in the Bill of Quantities but which is necessary for complying with the provisions of the contract.

3.00 OBLIGATIONS OF THE CONTRACTOR

3.01 In order to ensure that the contract work is executed strictly in accordance with this Agreement and in time, the Contractor shall have the following obligations at no extra cost to the Engineer-in-Charge in addition to such other obligations and responsibilities as have been specified elsewhere in this Contract.

- i) Provision of adequate number of constructional Plant and machinery for mechanized system of construction, handling and transportation;
- ii) Provision of special magazine at the site for storage of explosives, if necessary, for which required license shall be obtained from the concerned authorities;
- iii) Fulfil all the Contractor's labour regulations i.e fair wages, display of notices regarding wages, payment of wages, labour records, attendance cards-cum-wage slips, labour welfare etc. as per standard practices and norms applicable at site;

- 3.02** All fossils, gold, silver, oil and other minerals, precious stones, coins, article of value, of antiquity and structures and other remains/things of geological or archaeological interest discovered on the site of the works shall be notified by the Contractor immediately to the Engineer-in-Charge for onward information to the concerned authorities.
- 3.03** The Contractor shall take all reasonable precaution to prevent his workmen or any other person from removing or damaging any such article(s) or thing(s) and protect the same till the removal as per the instructions of the Engineer-in-Charge.
- 3.04** Clearance of the site of all rubbish, debris, vats, tanks, materials, temporary structures, plant and machinery, scaffoldings and filling of all pits, excavation and hand over the site in a tidy and cleaned condition.
- 3.05** Opening up of covered work if instructed by the Engineer, if such covering was done before inspection by the Engineer or without permission/approval from the Engineer-in-Charge.
- 3.06** During the construction of the airfield pavement, the light foundations will have to be provided as per the drawings, specifications and directions of the Engineer-in-Charge at such appropriate stage as decided by him. The Contractor shall obtain the approval of the Engineer-in-Charge the work plan for placing the light foundation at their designated places. The rest of the pavement will be constructed around these foundations in place without causing any damage to the foundation. The rate quoted shall include all these requirements. During execution of works for providing shoulders, rolling operation should be conducted with at most care so as not to damage the existing light fittings. Excavation and compaction around light fittings shall be done manually.

4.00 GENERAL

- 4.01** The works will be executed as indicated in the nomenclature of each item and technical specifications as given hereunder as made applicable to this contract.
- 4.02** In the absence of any definite provision in the technical specifications contained herein, reference may be made to the latest CPWD, MORTH, IRC, ICAO Specifications and IS codes, in that order. Wherever these are silent, the construction and completion of the works shall conform to sound engineering practice and in case of any dispute arising out of the interpretation of the above, the decision of the Engineer-in-Charge shall be final and binding on the Contractor.
- 4.03** In addition, the abbreviations CPWD, IRC, MOST, IS, BS, ICAO ASTM, AASHTO shall be considered to have the following meaning: -

CPWD	:	Central Public Works
Department	:	Indian Road Congress
MORTH	:	Ministry of Shipping & Transport (Road Wing) Government of India
IS	:	Indian Standard of the Bureau of Indian
Standards.	:	British Standard of the British Standard
BS	:	British Standard of the British Standard
ICAO	:	International Civil Aviation Organisation
ASTM	:	American Standards of the American Society of Testing Materials
AASHTO	:	American Association of State Highway and Transportation Officials.

All the codes of practice, standards and specifications applicable shall be the latest editions with upto date correction slips etc. or as directed by the Engineer-in-Charge.

5.00 TESTING

5.01 It is made clear that cost of testing, cost of material for testing, all field apparatus required for sampling and testing as per CPWD/IS codes and manpower incident to such testing will be provided along with necessary transport arrangement to and fro to the approved testing agency or laboratory by the Contractor during the construction phase of the work and defect liability period. The expenditure in this regard shall be borne by the Contractor and nothing extra shall be payable by AAI on this account. Field laboratory with all the required apparatus and staffs shall be established by the Contractor at site of work at his cost for carrying out field tests at stipulated frequencies.

6.00 SAMPLING AND TESTING

6.01 The Contractor or his accredited representative shall be present during sampling/testing and signify his concurrence for sampling/ testing carried out by signing the test records. The Contractor shall be liable of all actions consequent to the test and their results as if he himself attended to the tests. The Contractor is duly advised to be present himself for sampling and testing or in the alternative, have fully qualified duly authorized Engineer for this purpose.

7.0 GENERAL LIST OF CODES, STANDARDS AND SPECIFICATIONS ADOPTED IN THE TENDER DOCUMENTS.

7.01 The following IRC standards and IS, ASTM, British Standards, Codes and CPWD Specifications have generally been adopted in the tender documents. This list however does not limit the use of any other relevant code or standards by the Engineer-in-charge solely at his discretion either referred to in the tender documents or not, to achieve the desired quality of work. All the codes practice, standards and specifications applicable shall be the latest edition with all correction slips, etc, or as directed by the Engineer-in-Charge.

NUMBER/DESIGNATION	TITLE
IRC SPECIFICATION	
IRC:10	Recommended Practice for Borrowpits for Road Embankment Constructed by Manual Operation.
INDIAN STANDARDS	
IS:1786	Specification of high strength deformed steel and wires for concrete reinforcement.
IS:278	Specification of galvanized steel barbed wire for fencing.
IS:838	Coarse and fine aggregates from natural sources for concrete.
IS:456	Code of practice for plain and reinforced concrete.
IS:460 (Part I to III)	Testing Sieves
IS:516	Methods of test for strength of concrete.
IS:1124	Method of test for water absorption, apparent specific gravity and porosity of Natural Building Stone.
IS:1199	Methods of sampling and analysis of concrete.

IS:2386	Methods of test for aggregate for concrete:-
(Part -I)	Particle size and shape.
(Part -II)	Estimation of deleterious materials and organic impurities.
(Part -III)	Specific gravity, density, voids, absorption and bulking.
(Part -IV)	Mechanical Properties.
(Part -V)	Soundness
(Part -VI)	Measuring mortar making properties of fine aggregates.
(Part -VII)	Alkali-Aggregate reactivity
(Part -VIII)	Petrography Examination
IS:2720	Methods of tests for soils:
(Part -II)	Determination of water content
(Part-III) (Section-I)	Determination of specific gravity, section I fine grained soils.
(Part-III) (Section-II)	Determination of specific gravity, fine medium and coarse grained soils.
Part-IV	Grain size analysis

NUMBER/DESIGNATION	TITLE
Part-V	Determination of liquid and plastic limit.
Part-VII	Determination of water content dry density relation using light compaction.
Part-VIII	Determination of water content dry density relation using heavy compaction.
Part-XVI	Laboratory determination of CBR.
Part-XXVII	Determination of total soluble sulphate.
Part-XXVIII	Determination of dry density of soils in place by core cutter method.
Part XXIX	Determination of dry density of soils in place by core cutter method.
IS:5640	Method of determining the aggregate impact value of soft coarse aggregate.
IS:6241	Method of test for determination of stripping value of road aggregates.
IS:8112	43 grade ordinary Portland Cement.
BS:5212, Part-I, 1990	Two parts polysulphide based sealants.
ASTM/BS STANDARDS/SPECIFICATION	
ASTM:D-1559	Test for resistance to plastic flow of bituminous mixtures using Marshall apparatus.
ASTM:D-2172	Extraction quantitative, of bitumen from bituminous paving mixtures.
ASTM:E-11-39	Sieves for testing purpose "Wire Cloth sieve round

TSC-4

	hole and square” hole plate screen of Sieves.
BS:410	Test Sieves.
MOST Specification	“Specification for Road and Bridge Works” fourth revision reprinted in September, 2004. Issued by Ministry of Surface Transport (Roads Wing) and published by Indian Roads Congress.
ICAO’s Annex 14	Annexure 14 of the convention on I nternational Civil Aviation.

Item No. 2

Excavation for earth work in all kinds of soil with hydraulic excavator of 0.9cum bucket capacity including cutting & loading in tippers, trimming bottom and side slopes in accordance with requirement of line, grades and cross section and transporting to the embankment location with all lifts and lead within Airport Premises as directed by Engineer-in-Charge. All kinds of soil.

1. Scope

This work shall consist of excavation, removal and satisfactory disposal of all materials necessary for the construction of roadway, side drains and waterways in accordance with requirements of these Specifications and the lines, grades and cross-sections shown in the drawings or as indicated by the Engineer, It shall include the hauling and stacking of or hauling to sites of embankment and subgrade construction, suitable cut materials as required, as also the disposal of unsuitable cut materials in specified manner, trimming and finishing of the road to specified dimensions or as directed by the Engineer.

2. Classification of Excavated Material

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

- a) **Soil :** This shall comprise topsoil, turf, land, silt, loam, clay, mud, peat, Mack cotton soil, soft shale or loose morum, a mixture of these and similar material which yields to the ordinary application of pick, spade and/or shovel, rake or other ordinary digging implement. Removal of gravel or any other nodular material having dimension in any one direction not exceeding 75 mm occurring in such strata shall be deemed to be covered under soil category.
- b) Ordinary Rock (not requiring blasting this shall include:
 - i) Rock types such as laterites, shales and conglomerates, varieties of limestone and sandstone etc., which may be quarried or split with crow bar, also including any rock which in dry state may be hard, requiring blasting but which, when wet, becomes soft and manageable by means other than blasting;
 - ii) Macadam surfaces such as water bound and bitumen Air bound; soling of roads, paths etc. and hard core; compact morum or stabilized soil requiring grafting tool or pick or both and shovel, closely applied; gravel and cobble stone having maximum dimension in any one direction between 75 and 300 mm;
 - iii) Lime concrete, stone masonry in lime mortar and brick work in lime/cement mortar below ground level, reinforced cement concrete which

may be broken up with crow bars or picks and stone masonry in cementmortar below ground level; and

- iv) Boulders which do not require blasting having maximum dimension in any direction of more than 300 mm, found lying loose on the surface or embedded in river bed, soil, talus, slope wash and terrace material of dissimilar origin.

c) Hard Rock (requiring blasting)

This shall comprise:

- i) any rock or cement concrete for the excavation of which the use of mechanical plant and/or blasting is required;
- ii) Reinforced cement concrete (reinforcement cut through but not separated from the concrete) below ground level; and
- iii) boulders requiring blasting.

d) Hard Rock (blasting prohibited)

Hard rock requiring blasting as described under (c) but where blasting is prohibited for any reason and excavation has to be carried out by chiseling, wedging or any other agreed method.

e) Marshy Soil

This shall include soils like soft clays and peats excavated below the original ground level of marshes and swamps and soil) excavated from other areas requiring continuous pumping or bailing out of water.

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

3. Construction Operations

- 3.1 Setting out:** After the site has been cleared as per Clause 201 of MoRTH Specifications, the limits of excavation shall be set out true to lines, curves, slopes, grades and sections as shown on the drawings or as directed by the Engineer. The Contractor shall provide all labour, survey instruments and materials such as strings, pegs, nails, bamboos, stones, lime, mortar, concrete, etc., required in connection with the setting out of works and the establishment of bench marks. The Contractor shall be responsible for the maintenance of bench marks and other marks and stakes as long as in the opinion of the Engineer, they are required for the work.

- 3.2 Stripping and storing top soil :** When so directed by the Engineer, the topsoil existing over the sites of excavation shall be stripped to specified depths constituting Horizon "A" and stockpiled at designated locations^ for re -use in

covering embankment slopes, cut slopes, berms and other disturbed areas where re-vegetation is desired. Prior to stripping the topsoil, all trees, shrubs etc. shall be removed along with their roots, with approval of the Engineer.

3.3 Excavation -

General: All excavations shall be carried out in conformity with the directions laid here-in -under and in a manner approved by the Engineer. The work shall be so done that the suitable materials available from excavation are satisfactorily utilized as decided upon beforehand.

While planning or executing excavations, the Contractor shall take all adequate precautions against soil erosion, water pollution etc. as per Clause 306 of MoRTH Specifications, and take appropriate drainage measures to keep the site free of water in accordance with Clause 311 of MoRTH Specifications.

The excavations shall conform to the lines, grades, side slopes and levels shown on the drawings or as directed by the Engineer. The Contractor shall not excavate outside the limits of excavation. Subject to the permitted tolerances, any excess depth/ width excavated beyond the specified levels/dimensions on the drawings shall be made good at the cost of the Contractor with suitable material of characteristics similar to that removed and compacted to the requirements of Clause 305 of MoRTH Specifications.

All debris and loose material on the slopes of cuttings shall be removed. No backfilling shall be allowed to obtain required slopes excepting that when boulders or soft materials are encountered in cut slopes, these shall be excavated to approved depth on instructions of the Engineer and the resulting cavities filled with suitable material and thoroughly compacted in an approved manner.

After excavation, the sides of excavated area shall be trimmed and the area contoured to minimize erosion and ponding, allowing for natural drainage to take place. If trees were removed, new trees shall be planted, as directed by the Engineer. The cost of planting new trees shall be deemed to be incidental to the work.

3.4 Methods, tools and equipment: Only such methods, tools and equipment as approved by the Engineer shall be adopted/used in the work. If so desired by the Engineer, the Contractor shall demonstrate the efficacy of the type of equipment to be used before the commencement of work.

3.5 Rock excavation: Rock, when encountered in road excavation, shall be removed up-to the formation level or as otherwise indicated on the drawings. Where, however, unstable shales or other unsuitable materials are encountered at the formation level, these shall be excavated to the extent of 500 mm below the formation level or as otherwise specified. In all cases, 'the excavation operations shall be so carried out that at no point on cut formation the rock protrudes above the specified levels. Rocks and large boulders which are likely to cause differential settlement and also local drainage problems should be removed to the extent of 500 mm below the formation level in full formation width including drains and cut through the side drains.

Where excavation is done to levels lower than those specified, the excess excavation shall be made good as per Clauses 3.3 and 6 to the satisfaction of the Engineer.

Slopes in rock cutting shall be finished to uniform lines corresponding to slope lines shown on the drawings or as directed by the Engineer. Notwithstanding the foregoing, all loose pieces of rock on excavated slope surface which move when pierced by a crowbar shall be removed.

Where blasting is to be resorted to, the same shall be carried out to Clause 302 of MoRTH Specifications and all precautions indicated therein observed.

Where presplitting is prescribed to be done for the establishment of a specified slope in rock excavation, the same shall be carried out to Clause 303 of MoRTH Specifications.

- 3.6 Marsh excavation:** The excavation of soils from marshes/ swamps shall be carried out as per the program approved by the Engineer.

Excavation of marshes shall begin at one end and proceed in one direction across the entire marsh immediately ahead of backfilling. The method and sequence of excavating and backfilling shall be such as to ensure, to the extent practicable, the complete removal or displacement of all muck from within the lateral limits called for on the drawings or as slaked by the Engineer, and to the bottom of the marsh, firm support or levels indicated.

- 3.7 Excavation of road shoulders/verge/median for widening of pavement or providing treated shoulders:** In works involving widening of existing pavements or providing treated shoulders, unless otherwise specified, the shoulder/verge/median shall be removed to their full width and to levels shown on drawings or as indicated by the Engineer. While doing so, care shall be taken to see that no portion of the existing pavement designated for retention is loosened or disturbed. If the existing pavement gets disturbed or loosened, it shall be dismantled and cut to a regular shape with sides vertical and the disturbed/loosened portion removed completely and relaid as directed by the Engineer, at the cost of the Contractor.

- 3.8 Excavation for surface/sub-surface drains:** Where the Contract provides for construction of surface/sub-surface drains to Clause 309 of MoRTH Specifications, excavation for these shall be carried out in proper sequence with other works as approved by the Engineer.

- 3.9 Slides:** If slips, slides, over-breaks or subsidence occur in cuttings during the process of construction, they shall be removed at the cost of the Contractor as ordered by the Engineer. Adequate precautions shall be taken to ensure that during construction, the slopes are not rendered unstable or give rise to recurrent slides after construction. If finished slopes slide into the roadway subsequently, such slides shall be removed and paid for at the Contract rate for the class of excavation involved, provided the slides are not due to any negligence on the part of the Contractor. The classification of the debris material from the slips, slides etc. shall

conform to its condition at the time of removal and payment made accordingly regardless of its condition earlier.

3.10 Dewatering: If water is met with in the excavations due to springs, seepage, rain or other causes, it shall be removed by suitable diversions, pumping or bailing out and the excavation kept dry whenever so required or directed by the Engineer. Care shall be taken to discharge the drained water into suitable outlets as not to cause damage to the works, crops or any other property. Due to any negligence on the part of the Contractor, if any such damage is caused, it shall be the sole responsibility of the Contractor to repair/restore to the original condition at his own cost or compensate for the damage.

3.11 Disposal of excavated materials: All the excavated materials shall be the property of the Employer. The material obtained from the excavation of roadway, shoulders, verges, drains, cross drainage works etc., shall be used for filling up of (i) roadway embankment, (ii) the existing pits in the right -of-way and (iii) for landscaping of the road as directed by the Engineer, including levelling and spreading with all lifts and **leads within airport premises** and no extra payment shall be made for the same.

All hard materials, such as hard moorum, rubble, etc., not intended for use as above shall be stacked neatly on specified land as directed by the Engineer with all lifts and **leads within airport premises**. Unsuitable and surplus material not intended for use within the lead specified above shall also, if necessary, be transported with all lifts and lead beyond airport premises, disposed of or used as directed by the Engineer.

3.12 Backfilling: Backfilling of masonry /concrete/hume pipe drain excavation shall be done with approved material after concrete/masonry/hume pipe is fully set and carried out in such a way as not to cause undue thrust on any part of the structure and/or not to cause differential settlement. All space between the drain walls and the side of the excavation shall be refilled to the original surface making due allowance for settlement, in layers generally not exceeding 150 mm compacted thickness to the required density, using suitable compaction equipment such as mechanical tamper, rammer or plate compactor as directed by the Engineer.

4. Plying of Construction Traffic

Construction traffic shall not use the cut formation and finished subgrade without the prior permission of the Engineer. Any damage arising out of such use shall be made good by the Contractor at his own expense.

5. Preservation of Property

The Contractor shall undertake all reasonable precautions for the protection and preservation of any or all existing roadside trees, drains, sewers or other sub - surface drains, pipes, conduits and any other structures under or above ground, which may be affected by construction operations and which, in the opinion of the Engineer, shall be continued in use without any change. Safety measures taken by the Contractor in this respect, shall be got approved from the Engineer. However,

if any of these objects is damaged by reason of the Contractor's negligence, it shall be replaced or restored to the original condition at his expense. If the Contractor fails to do so, within the required time as directed-by the Engineer or if, in the opinion of the Engineer, the actions initiated by 'the Contractor to replace/restore the damaged objects are not satisfactory, the Engineer shall arrange the replacement/restoration directly through any other agency at the risk and cost of the Contractor after issuing a prior notice to the effect,

6. Preparation of Cut Formation

The cut formation, which serves as a subgrade, shall be prepared to receive the" sub- base/base course as directed by the Engineer. Where the material in the subgrade (that is within 500 mm from the lowest level of the pavement) has a density less than specified in Table 300-2 of MoRTH Specifications, the same shall be loosened to a depth of 500 mm and compacted in layers in accordance with the requirements of Clause 305 of MoRTH Specifications.

Any unsuitable material encountered in the subgrade level shall be removed as directed by the Engineer and replaced with suitable material compacted in accordance with Clause 305 of MoRTH Specifications.

In rocky formations, the surface irregularities shall be corrected and the levels brought up to the specified elevation with granular base material as directed by the Engineer, laid and compacted in accordance with the respective Specifications for these materials. The unsuitable material shall be disposed of in accordance with Clause 3.11. After satisfying the density requirements, the cut formation shall be prepared to receive the subbase/base course in accordance with Clauses 310 and 311 of MoRTH Specificationsto receive the sub-base/base course.

7. Finishing Operations

Finishing operations shall include the work of properly shaping and dressing all excavated surfaces.

When completed, no point on the slopes shall vary from the designated slopes by more than 150 mm measured at right angles to the slope, except where excavation is in rock (hard or soft) where no point shall vary more than 300 mm from the designated slope.In no case shall any portion of the slope encroach on the roadway.

The finished cut formation shall satisfy the surface tolerances described in Clause 902 of MoRTH Specifications.

Where directed, 'the topsoil removed earlier and conserved (Clauses 3.2 above and 305.3.3 of MoRTH Specifications) shall be spread over cut slopes, where feasible, berms and other disturbed areas. Slopes may be roughened and moistened slightly, prior to the application of topsoil, in order to provide satisfactory bond. The depth of topsoil shall be sufficient to sustain plant growth, the usual thickness being from 75 mm to 100 mm.

8. Measurements for Payment

Excavation for roadway shall be measured by taking cross sections at suitable intervals in the original position before the work starts and after its completion and computing the volumes in cu. m. by the method of average end areas for each class of material encountered. Where it is not feasible to compute volumes by this method because of erratic location of isolated deposits, the volumes shall be computed by other accepted methods.

At the option of the Engineer, the Contractor shall leave depth indicators during excavations of such shape and size and in such positions as directed so as to indicate the original ground level as accurately as possible. The Contractor shall see that these remain intact till the final measurements are taken.

9. Rates

9.1 The Contract unit rates for the items of roadway and drain excavation shall be payment in full for carrying out the operations required for the individual items including full compensation for :

- i) Setting out;
- ii) Transporting the excavated materials and depositing the same on sites of embankments, spoil banks or stacking as directed within all lifts and leads within airport premises or as otherwise specified;
- iii) Trimming bottoms and slopes of excavation;
- iv) dewatering;
- v) Keeping the work free of water *as per* Clause 311 of MoRTH Specifications; and
- vi) All labour, materials, tools, equipment, safety measures, testing and incidentals necessary to complete the work to Specifications.

Provided, however, where presplitting is prescribed to achieve a specified slope in rock excavation, the same shall be paid for vide Clause 303.5 of MoRTH Specifications.

9.2 The Contract unit rate for the items of stripping and storing topsoil and of reapplication of topsoil shall include full compensation for all the necessary operations including all lifts, but leads within airport premises

9.3 The Contract unit rate for disposal of surplus earth from roadway and drain excavation shall be full compensation for all labour, equipment, tools and incidentals necessary on account of the additional haul or transportation involved beyond the airport premises.

Item No. 5

Preparation 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 mechanical transport to work site, for all leads & lifts, spreading in uniform layers of specified thickness with mechanical means including neatly levelling and dressing on prepared surface and compacting with vibratory power roller to achieve the desired density, complete as per direction of Engineer-in-Charge. a) with material conforming to grading I of Table I of Particular Specifications.

1. Scope

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

The thickness of a single compacted GSB layer shall not be less than 75 mm. When vibrating or other approved types of compacting equipment are used, the compacted depth of a single layer of the sub-base course may be increased to 150 mm upon approval of the Engineer-in-charge.

2. Materials

i) The material to be used for the work shall be natural sand, crushed gravel, crushed stone, crushed slag, or combination thereof depending upon the grading required. Use of materials like brick metal, kankar and crushed concrete shall be permitted in the lower sub-base. The material shall be free from organic or other deleterious constituents and shall conform to the grading given in Table-1 and physical requirement given in Table-

2. Grading III and IV shall preferably be used in lower sub-base. Gradings- V and VI shall be used as a sub-base cum drainage layer. The grading to be adopted for a work shall be as specified in the contract.

If the water absorption of the aggregate determined as per IS:2386 (Part 3) is greater than 2 percent, the aggregate shall be tested for Wet Aggregate Impact Value (AIV) (IS:5640). Soft aggregate like Kankar, brick ballast and laterite shall also be tested for Wet AIV (IS:5640).

Table -1. Grading for granular sub-base material

IS Sieve Designation	Percent by Weight Passing the IS Sieve					
	Grading I	Grading II	Grading III	Grading IV	Grading V	Grading VI
75.00 mm	100	-	-	-	100	-

53.00 mm	80 - 100	100	100	100	80-100	100
26.50 mm	55 - 90	70 - 100	55 - 75	50 - 80	55-90	75 - 100
9.50 mm	35 - 65	50 - 80	-	-	35-65	55 - 75
4.75 mm	25 - 55	40 - 65	10 - 30	15 - 35	25-50	30 - 55
2.36 mm	20 - 40	30 - 50	-	-	10-20	10 - 25
0.85 mm	-	-	-	-	2-10	-
0.425 mm	10-15	10-15	-	-	0-5	0 - 8
0.075 mm	< 5	< 5	< 5	< 5	-	0 - 3

Table 2: Physical Requirement for Materials for Granular Sub-base.

Aggregate Impact Value(AIV)	IS:2386(Part 4) or IS:5640	40 Maximum
Liquid Limit	IS:2720(Part 5)	Maximum 25
Plasticity Index	IS:2720(Part 5)	Maximum 6
CBR at 98% dry density IS:272-(Part 8)	IS:2720(Part 5)	Minimum 30 specified unless otherwise specified in the Contract

Locally available river bed material can also be used by blending river bed material, river sand and soil with part of crushed aggregates to get all required parameters well within the range of specifications.

3. Strength of sub-base

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

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

4. Construction Operations

i) Spreading and compacting

The sub base material of grading specified in the Contract and water shall be mixed mechanically by a suitable mixture equipped with provision for controlled addition of water and mechanical mixing so as to ensure homogeneous and uniform mix. The required water content shall be determined in accordance with IS: 2720(Part- 8). The mix shall be spread on the prepared sub grade with mechanical means of adequate capacity its blade having hydraulic controls suitable for initial adjustment and for maintaining the required slope and grade during the operation or other means as approved by the Engineer-in-charge.

The moisture content of mix shall be checked in accordance with IS: 2720 (Part-2) and suitably adjusted so that at the time of compaction it is from 1-2% below the optimum moisture content.

Manual mixing shall be permitted only where the width of laying is not adequate for mechanical operations, as in small-sized jobs. The equipment used for mix-in place construction shall be a rotator or similar approved equipment capable of mixing the material to the desired degree. If so desired by the Engineer-in-charge, trial runs with the equipment shall be carried out to establish its suitability for the work.

Immediately after spreading the mix, rolling shall be done by an approved roller. If the thickness of the compacted layer does not exceed 100mm, a smooth wheeled roller of 80 to 100 KN weight may be used. For a compacted single layer up to 150 mm, the compaction shall be done with the help of a vibratory roller of minimum 80 to 100 KN static weight capable of achieving the required compaction. Rolling shall commence at the lower edge and proceed towards the upper edge longitudinally for portions having unidirectional cross fall or on super elevation. For pavement having cross fall on both sides rolling shall commence at the edges and progress towards crown.

Each pass of the roller shall uniformly overlap not less than one third of the track made in the preceding pass. During rolling, the grade and cross fall (camber) shall be checked and any high spots or depressions, which become apparent, corrected by removing or adding fresh material. The speed of the roller shall not exceed 5 Km per hour.

Rolling shall be continued till the density achieved is at least 98% of the maximum dry density for the material determined as per IS: 2720 (Part 8). The surface of any layer of material on completion of compaction shall be well closed, free from movement under compaction equipment and from compaction planes, ridges, cracks or loose material. All loose, segregated or otherwise defective areas shall be made good to the full thickness of layer and re-compacted.

5. Surface Finish and Quality Control of Work

i) General

All works performed shall conform to the lines, grades, cross-sections and dimensions shown on the drawings or as directed by the Engineer-in-Charge, subject to the permitted tolerances described herein-after.

ii) Horizontal Alignment:

Horizontal alignment shall be reckoned with respect to the center line of the carriageway as shown on the drawings. The edges of the carriageway as constructed shall be correct **within** a tolerance of ± 10 mm therefrom. The corresponding tolerance for edges of the pavement and lower layers of pavement shall be ± 25 mm.

iii) Surface levels:

The top level of the granular sub-base shall not vary from those calculated with reference to the longitudinal & cross profile of the pavement shown in the Drawings or as directed by Engineer-in-Charge, beyond the tolerances mentioned as follow:

Sl. No.	Sub-base	Tolerances
1.	Flexible pavement	±10 mm
2.	Concrete pavement	±6 mm

iv) Surface Regularity:

The maximum allowable difference between pavement surface and underside of a 3 m straightedge when placed parallel with or at right angles to the center line of pavement at points decided by the Engineer -in-charge shall not exceed 8 mm.

v) Rectification:

Where the surface regularity falls outside the specified tolerances, the Contractor shall be liable to rectify the same upto the satisfaction of Engineer-in-Charge. Where the surface is high, it shall be trimmed and suitably compacted. Where the same is low, the deficiency shall be corrected to scarifying the lower layer and adding fresh material and re- compacting to the required density.

vi) Quality Control:

The following quality control tests shall be carried out at frequencies specified against each for Granular Sub-base:-

S. No.	Article II.	Test	Article III. Method	Test	Article IV. (min.)	Frequency
1	Article V.	Gradation	Article VI. (Part -VI)	IS: 2720	Article VII. m ³	One test per 200 m ³
2	Article VIII. limits	Atterberg	Article IX. (Part-V)	IS: 2720	Article X. m ³	One test per 200 m ³
3	Article XI. Content prior to compaction	Moisture	Article XII.(Part-II)	IS: 2720	Article XIII. m ²	One test per 250 m ²
4	Article XIV. Density of compacted layer	Density of	Article XV. (Part-XXVIII)	IS: 2720	Article XVI. m ²	One test per 500 m ²
5	Article XVII. constituents	Deleterious	Article XVIII.(Part-XXVII)	IS: 2720	Article XIX.	As required
6	Article XX. set of 3 specimens)	C.B.R. (On	Article XXI.(Part-XVI)	IS: 2720	Article XXII.	As required

7	<i>Article XXIII. Control of Grade, camber thickness and surface finish</i>	<i>Article XXIV. -</i>	<i>Article XXV. Regularly</i>
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vii) Arrangement of Traffic

No vehicular traffic of any kind shall be allowed on the finished granular sub-base surface till it has dried and the next course laid. In exceptional cases, construction traffic may be allowed with approval of the Engineer-in-Charge for short durations once the course is completely dry provided vehicles move over the full width avoiding any rutting or uneven compaction. The Contractor will take all precautionary measures to prevent any damage to the finished surface till next layer is laid over it.

Item No. 6

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 mechanical mix plant, carriage of mixed material by mechanical transport to site, for all leads & lifts, laying in uniform layers with mechanical paver finisher 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.

1. Scope

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

The thickness of a single compacted Wet Mix Macadam layer shall not be less than 75 mm. When vibrating or other approved types of compacting equipment are used, the compacted depth of a single layer of the sub-base course may be increased to 150 mm upon approval of the Engineer-in-Charge.

2. Materials

ii) Aggregates

a) Physical requirements:

Coarse Aggregates shall be crushed stone. If crushed gravel/shingle is used, not less than 90 percent by weight of the gravel/shingle pieces retained on 4.75 mm sieve shall have at least two fractured faces. The aggregates shall conform to the physical requirement set forth in table-1.

Table 1: Physical Requirements of coarse aggregates for Wet Mix Macadam for Sub-base / Base course.

Test	Test Method	Requirements
Los Angeles Abrasion value or Aggregate Impact value	IS : 2386 (Part 4) IS : 2386 (Part 4) or IS:5640	40 per cent (Max.)30 per cent (Max.)
Combined Flakiness and Elongation Indices (Total)	IS : 2386 (Part 1)	35 per cent (Max.) *

* To determine this combined proportion, the flaky stone from a representative sample should first be separated out. Flakiness index is weight of flaky stone metal divided by weight of stone sample. Only the elongated particles are to be separated out from the remaining (non-flaky) stone metal. Elongation index is weight of

elongated particles divided by total non-flaky particles. The value of flakiness index and elongation index so found are added up.

If the water absorption value of the coarse aggregate is greater than 2 per cent, the soundness test shall be carried out on the material delivered to site as per IS: 2386 (Part 5).

b) Grading requirements

The aggregate shall conform to the grading given in table below:

Table 2: Grading Requirements of aggregates for Wet Mix Macadam

IS Sieve designation	Per cent by weight passing the IS sieve	Control Grading Band Tolerances Percent
53mm	100	0
45mm	95-100	±5
26.50mm	-	-
22.40mm	60-80	±8
11.20mm	40-60	±8
4.75mm	25-40	±8
2.36mm	15-30	±8
600micron	8-22	±5
75micron	0-5	±3

The job control band tolerances in the Table 2 shall be applied to final gradation to establish a job control grading band. The full tolerance still applies if application of the tolerances results in a job control grading band outside the design range.

Materials finer than 425 micron shall have Plasticity Index (PI) not exceeding 6.

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

Locally available river bed material can also be used by blending river bed material, river sand and soil with part of crushed aggregates to get all required parameters well within the range of specifications.

3. Construction operations

i) Preparation of Base:

The surface of the sub grade/sub-base/base to receive the wet mix macadam course shall be prepared to the specified grade and camber and clean of dust, dirt and other extraneous material. Any ruts or soft yielding places shall be corrected

in an approved manner and rolled until firm surface is obtained if necessary by sprinkling water.

As far as possible, laying wet mix macadam course over existing bituminous layer maybe avoided since it will cause problems of internal drainage of the pavement at the interface of two course. It is desirable to completely pick out the existing thin bituminous wearing course where wet mix macadam is proposed to be laid over it.

ii) Provision of lateral confinement of aggregates:

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

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

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

iii) Preparation of mix:

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

The plant shall have the following features:

- i) For feeding aggregates – three/four bin feeders with variable speed motor.
- ii) Vibrating screens for removal of oversized aggregates.
- iii) Conveyer belt.
- iv) Control system for addition of water.
- v) Forced/positive mixing arrangement like pug mill or pan type mixture.
- vi) Centralized control panel for sequential operation of various devices and precise process control.
- vii) Safety devices.

Optimum moisture for mixing shall be determined in accordance with IS: 2720 (Part 8) after replacing the aggregate fraction retained on 22.4 mm sieve with material of 4.75 mm to 22.4 mm size. While adding water, due allowance shall be made for evaporation losses. However, at the time of compaction, water in the wet mix shall not vary from the optimum value by more than agreed limits. The mixed material should be uniformly wet and no segregation shall be permitted.

For small quantity of WMM work or inaccessible/remote location and in situation of where use of machinery is not feasible, the Engineer-in-Charge may permit the mixing to be done in concrete mixers/manual mixing.

iv) Spreading of mix:

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

The mix shall be spread by a paver finisher. The paver finisher shall be self-propelled of adequate capacity with following features:

- a) Loading hoppers and suitable distribution system so as to provide a smooth uninterrupted material flow for different layer thicknesses from the tipper to the screed.
- b) Hydraulically operated telescopic screed for paving width upto 8.5 m and fixed screed beyond this. The screed shall have tamping and vibrating arrangement for initial compaction of layer.
- c) Automatic leveling control system with electronic sensitive device to maintain mat thickness and cross-slope of mat during laying procedure.

In exceptional cases where it is not possible for the paver to be utilized, suitable mechanical means may be used with the prior approval of Engineer-in-Charge.

The surface of the aggregate shall be carefully checked with templates and all high or low spots remedied by removing or adding aggregate as may be required. The layer shall be tested by depth blocks during construction. No segregation of larger and fine particles shall be allowed. The aggregates as spread shall be of uniform gradation with no pockets of fine materials.

v) Compaction:

After the mix has been laid to the required thickness, grade and cross-fall / camber, the same shall be uniformly compacted, to the full depth with suitable roller. If the thickness of single compacted layer does not exceed 100 mm, a smooth wheel roller of 80 to 100 KN weight shall be used. For a compacted single layer up to 150 mm, the compaction shall be done with the help of vibratory roller of minimum static weight of 80 to 100 KN with an arrangement for adjusting the frequency and amplitude. An appropriate frequency and amplitude may be selected. The speed of the roller shall not exceed 5 Km/hr.

In portions having unidirectional cross-fall / super elevation, rolling shall commence from the lower edge and progress gradually towards the upper edge. Thereafter, roller shall progress parallel to the centre line of the road, uniformly over-lapping each preceding track by at least one-third width until the entire

surface has been rolled. Alternate trips of the roller shall be terminated in stops atleast 1 m away from any preceding stop.

In portions in camber, rolling shall begin at the edge with the roller running forward and backward until the edges have been firmly compacted. The roller shall then progress gradually towards the centre parallel to the centre line of the road uniformly overlapping each of the preceding track by at least one-third width until the entire surface has been rolled.

Any displacement occurring as a result of reversing of the direction of a roller or from any other cause shall be corrected at once as specified and / or removed and made good.

Along forms, kerbs, walls or other places not accessible to the roller, the mixture shall be thoroughly compacted with mechanical tampers or a plate compactor or any other suitable method decided by the Engineer-in-Charge. Skin patching of an area without scarifying the surface to permit proper bonding of the added material shall not be permitted.

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

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

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

vi) Setting and drying:

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

vii) Opening to Traffic

No vehicular traffic of any kind shall be allowed on the finished wet mix macadam surface till it has dried and the course laid. In exceptional cases, construction traffic may be allowed with approval of the Engineer-in-Charge for short durations once the course is completely dry provided vehicles move over the full width avoiding any rutting or uneven compaction. The Contractor will take all precautionary

measures to prevent any damage to the finished surface till next layer is laid over it.

viii) Surface Finish and Quality Control of Work

- a) Surface Regularity:** The maximum allowable difference between pavement surface and underside of a 3m straightedge when placed parallel with or at right angles to the centre line of pavement at points decided by the Engineer-in-Charge shall not be more exceed 8 mm.
- b) Surface level:** The tolerance in surface level for wet mix macadam shall not vary ± 10 mm for machine laid and ± 15 mm for manually laid with reference to the longitudinal and cross-profile of the pavement shown on the drawing or as directed by Engineer-in-Charge.
- c) Quality Control:** The following quality control tests shall be carried out at frequencies specified against each for Wet Mix Macadam.

S. No	Article XXVI.est	Article XXVII.est Method	Article XXVIII.y (min.)	Frequenc
1	Article XXIX. os Angeles Abrasion Value/ Aggregate Impact Value	Article XXX. S:2386 (Part IV) Article XXXI.	Article XXXII.	One test per 200 cum. of aggregate.
2	Article XXXIII. rading of mixed aggregate	Article XXXIV. S:2386 (Part I) Article XXXV.	Article XXXVI.	One test per 100 cum. of aggregate.
3	Article XXXVII. lakiness Index	Article XXXVIII. S:2386 (Part I)	Article XXXIX.	One test per 200 cum. of aggregate.
4	Article XL. lasticity Index	Article XLI. S:2720 (Part V)	Article XLII.	One test per 200 cum. of aggregate.
5	Article XLIII. oisture content prior to compaction	Article XLIV.	Article XLV.	One test per 200 cum. of aggregate.
6	Article XLVI. ensity of compacted layer	Article XLVII. S:2720(Part- 28)	Article XLVIII.	One test per 500 sqm.

ix) The materials supplied and the works carried out by the Contractor shall confirm to therelevant technical specifications and as approved by the Engineer-in-Charge.

For ensuring the requisite quality of construction, the materials and works shall be subjected to quality control tests, as described above. The testing frequencies set forth are the desirable minimum and the Engineer-in-Charge shall have the full

authority to carry out tests as frequently as he may deem necessary to satisfy himself that the materials and works comply with the appropriate specifications.

Test procedures for the various quality control tests are indicated in the respective Section of these Specifications or for certain tests within this Section. Where no specific testing procedure is mentioned, the tests shall be carried out as per the prevalent accepted engineering practice to the directions of the Engineer-in-Charge.

x) Rectification of Surface Irregularity

Where the surface irregularity of the wet mix macadam course exceeds the permissible tolerances or where the course is otherwise defective due to subgrade soil getting mixed with the aggregates, the full thickness of the layer shall be scarified over the affected area, reshaped with added premixed material or removed and replaced with fresh premixed material as applicable and re-compacted in accordance with Clause 3 above. The area treated in the aforesaid manner shall not be less than 5m long and 2m wide. In no case, the depressions shall be filled up with unmixed and un-graded material or fines.

Item No. 7

Providing and laying dry lean cement concrete Sub- base over a prepared sub-grade with coarse and fine aggregate conforming to IS: 383, the size of coarse aggregate not exceeding 26.5 mm, aggregate cement ratio not to exceed 15:1, aggregate gradation after blending to be as per specification, cement content not to be less than 150 kg/ cum, optimum moisture content to be determined during trial length construction, concrete strength not to be less than 10 Mpa at 7 days, mixed in a batching plant as per mix design, transported to site, laid with a paver with electronic sensor, compacting with 8-10 tonnes vibratory roller, finishing and curing etc complete as per specification and direction of Engineer-in-charge.

1. SCOPE

- a) The work shall consist of construction of (zero slump) dry lean concrete sub-base for cement concrete pavement in accordance with the requirements of these specifications and shall conform to the lines, grades and cross-sections shown on the drawings or as directed by the Engineer-in-Charge. The work shall include furnishing of all plant and equipment, materials and labour and performing all operations, in connection with work, as approved by the Engineer-in-Charge.
- b) The design parameters of dry lean concrete sub-base, i.e. width, thickness, grade of concrete, details of joints, if any, etc. shall be as stipulated in the Contract drawings or as directed by Engineer-in-charge.

2. MATERIALS

- a) **Source of Materials:** The contractor shall indicate to the Engineer-in-charge the source of all materials with relevant test data to be used in the lean concrete work sufficiently in advance and the approval of the Engineer-in-charge for the same shall be obtained before start of the work. If the contractor later proposes to obtain the materials from a different source, he shall notify the Engineer-in-charge for his approval before such materials are to be used.
- b) **Cement:** Any of the following types of cement may be used with the prior approval of Engineer-in-charge.
 - i) Ordinary Portland Cement IS: 8112
 - ii) Portland Slag Cement IS: 455
 - iii) Portland Pozzolona Cement IS:1489-Part-I

If the sub-grade is found to consist of soluble sulphates in a concentration more than 0.5 percent, the cement used shall be sulphate resistant and shall conform to IS: 6909.

Supply of Cement shall be obtained either in bulk form or as per clause 3.1.2.5 of CPWD specifications Vol-I, 2019. Cement shall be subjected to acceptance tests prior to its use. Nothing extra shall be paid on this account.

c) **Aggregates:**

- i) Aggregates for lean concrete shall be natural material complying with IS: 383. The aggregates shall not be alkali reactive. The limits of deleterious materials shall not exceed the requirements set out in IS: 383. In case the aggregates are not free from dirt, the same may be washed and drained for at least 72 hours before batching, as directed by the Engineer-in-charge.
- ii) **Coarse aggregate:** Coarse aggregates shall consist of clean, hard, strong, dense, non-porous and durable pieces of crushed stone or crushed gravel and shall be devoid of pieces of disintegrated stone, soft, flaky, elongated, very angular or splintery pieces. The maximum size of coarse aggregate shall not exceed 26.5mm for lean concrete. No aggregate which has water absorption more than 2 percent shall be used in the concrete mix. The aggregate shall be tested for soundness in accordance with IS:2386 (Part-5). After 5 cycles of testing, the loss shall not be more than 12 percent if sodium sulphate solution is used or 18 percent if magnesium sulphate solution is used. The Loss Angeles Abrasion value shall not exceed 35. The combined flakiness and elongation index of aggregate shall not be more than 35 percent.
- iii) **Fine aggregate:** The fine aggregates shall consist of clean natural sand or crushed stone sand or a combination of the two and shall conform to IS:383. Fine aggregate shall be free from soft particles, clay, shale, loam, cemented particles, mica and organic and other foreign matter. The fine aggregates shall have a sand equivalent value of not less than 50 when tested in accordance with the requirement of IS:2720 (Part 37).
The material after blending shall conform to the grading as indicated in Table 1.

TABLE 1: Aggregate gradation for Dry Lean Concrete

Sieve Designation	Percentage passing the sieve by weight
26.50 mm	100
19.00 mm	75-95
9.50 mm	50-70
4.75 mm	30-55
2.36 mm	17-42
600 micron	08-22
300 micron	07-17
150 micron	02-12
75 micron	0-10

- d) **Water:** Water used for mixing and curing of concrete shall be clean and free from injurious amounts of oil, salt, acid, vegetable matter or other substances harmful to the finished concrete. It shall meet the requirements stipulated in IS: 456.

e) **Storage of materials**

i) Cement:

The Contractor shall provide adequate storage facilities to prevent deterioration of cement during storage due to climate and other causes. Wherever bulk storage containers are used, their capacity should be sufficient to cater to the requirement at site. The containers shall be cleaned at least once every 3 months. Cement remaining in stores for more than one and half month from the date of manufacture must be retested before use and to be rejected, if it fails to conform to any of the requirements of the specifications.

ii) Aggregates:

- a) Stock piles shall be made immediately on receipt of aggregates at site of work. Aggregates shall be stacked separately according to the nominal sizes of coarse aggregates. For fine aggregates, separate stacks shall be made.
- b) Aggregates shall be stacked on a hard surface so as to exclude the possibility of soil or grass being mixed up. When stacked in close proximity, the stock piles shall be separated by bulk heads to prevent the different sizes of aggregates from mixing together. Special care shall be taken to clean and wash the last layer of aggregates in contact with ground surface before use.
- c) Before batching, the aggregates shall have been stock piled for at least 24 hours to allow for draining of water, if any. The Contractor shall make adequate provision for stock piling aggregates to the extent sufficient to meet the needs of the work taking into account the availability of supplies and rates of delivery etc. and nothing extra shall be paid for necessary double handling and transport of materials from stock piles to mixing plant etc.

3. Proportioning of Materials for the Mix

i) The mix shall be proportioned with a maximum aggregate cement ratio of 15:1. The water content shall be adjusted to the optimum as per clause 3 (iii) for facilitating compaction by rolling. The strength and density requirement of concrete shall be determined in accordance with clause 6 and 7 by making trial mixes.

ii) Moisture Content: The right amount of water for the lean concrete in the main work shall be decided so as to ensure full compaction under rolling and shall be assessed at the time of rolling the trial area. Too much water will cause the lean concrete to be heaving up before the wheels and to be picked up on the wheels of the roller and too little will lead to inadequate compaction, a low in-situ strength and an open-textured surface.

The optimum water content shall be determined and demonstrated by rolling during trial area construction and the optimum moisture content and degree of compaction shall be got approved from the Engineer-in-Charge. While laying the main work, the lean concrete shall have a moisture content between the optimum and optimum + 2 per cent, keeping in view the effectiveness of compaction achieved and to compensate for evaporation losses.

- iii) Cement Content:** The cement content in dry lean concrete shall be such that the strength specified in clause 3 (iv) is achieved. For the purpose of tendering, the cement content may be assumed as 150 Kg per cum of finished DRLC.

If the actual quantity of cement required as per laboratory mix design varies from the quantity assumed above, necessary cost adjustment for deviation in the quantity of cement as per mix design, if any, shall be done as per the rate of cement in actual supply voucher from manufacturer /authorized dealer at the time of execution. In the case of authorized distributor the rate may be authenticated by the manufacturer. However, under no circumstances the cement content shall fall below 150 Kg per cum.

- iv) Concrete Strength:** The average compressive strength of each consecutive group of 5 cubes made shall not be less than 10 MPa at 7 days. In addition, the minimum compressive strength of any individual cube shall not be less than 7.5 MPa at 7 days. The design mix complying with the above clauses shall be got approved from the Engineer-in-Charge and demonstrated in the trial length construction.

4. Construction

i) General

The pace and programme of the dry lean concrete sub-base construction shall be matching suitably with the programme of construction of the cement concrete pavement over it. The dry lean concrete sub-base shall be overlaid with concrete pavement only after 7 days after sub-base construction.

ii) Batching and Mixing

- a)** A system approach should be adopted for construction of pavement, and the method statement for carrying out the work, detailing all the activities including indication of time cycle, equipment, personnel etc. shall be got approved from the Engineer-in-Charge before the commencement of work. The above shall include the type, capacity and make of batching and mixing plant beside the hauling arrangement and paving equipment. The capacity of paving equipment, batching plant as well as all the ancillary equipment shall be adequate for a paving requirement for day's work.
- b)** Batching and mixing of the concrete shall be done at a central batching and mixing plant of capacity not less than 30 Cum/hr with automatic controls, located at suitable place which takes into account sufficient space for stock piling of cement, aggregate and stationary water tanks. This shall be however, situated at an approved distance, duly considering the properties of the mix and transport arrangements available with the contractor.
- c)** Proportioning of a material shall be done in the batching plant by weight, each type of material being weighed separately. The cement from the bulk stock may be weighed separately from the aggregates and water shall be measured by volume. Wherever properly graded aggregate of uniform quality can not be maintained as envisaged in the mix design the grading of aggregates shall

be controlled by appropriate blending techniques. The capacity of batching and mixing plant shall be at-least 25% higher than the proposed capacity for the laying/ paving equipment.

- d)** The batching plant shall include preferably four bins, weighing hoppers, and scales for the fine aggregate and for each size of coarse aggregate. If cement is used in bulk (after opening bags on platform) a separate scale for cement shall be included. The weighing hoppers shall be properly sealed and vented to preclude dust during operation. Approved safety devices shall be provided and maintained for the protection of all personnel engaged in plant operation, inspection and testing. The batch plant shall be equipped with suitable non resettable batch counter which will correctly indicate the number of batches proportioned.
- e)** Bins preferably with four adequate separate compartments shall be provided in the batching plant.
- f)** Batching plant shall be equipped to proportion aggregates and bulk cement by means of automatic weighing devices using load cells. The weighing device shall have an accuracy within + 1% in respect of quantity of cement and water and + 2% in respect of aggregates and accuracy shall be checked at least once a month.
- g)** Mixers shall be pan type, reversible type with single or twin shaft or any other mixer capable of combining the aggregates, cement and water into a thoroughly mixed and uniform mass within the specified mixing period and of discharging the mix without segregation. Each stationary mixer shall be equipped with an approved timing device which will automatically lock the discharge lever when the drum has been charged and release it at the end of the mixing period. The device shall be equipped with a bell or other suitable warning device adjusted to give a clearly audible signal each time the lock is released. In case of failure of the timing device the mixer may be used for the balance of the day while it is being repaired provided that each batch is mixed for 90 seconds or as per the manufacturer's recommendation. The mixer shall be equipped with a suitable non resettable batch counter which shall correctly indicate the number of batches mixed.
- h)** The mixer shall be cleaned at suitable intervals. The pickup and throw over blades in the drum or drums shall be repaired or replaced when they are worn down 20mm or more. The contractor shall have available at the job site a copy of the manufacturer's design, showing dimensions and arrangements of blades in reference to original height and depth or provide permanent marks on blade to show points of 20mm wear from new conditions. Drilled holes of 5mm diameter near each end and at mid point of each blade are recommended. Batching plant shall be calibrated for the each ingredients upto its maximum quantity being used in the mix at site in the beginning and thereafter at suitable interval not exceeding one month.

- i) Air-conditioned centralized computer control cabin shall be provided for automatic operation of the equipment.
- j) The design feature of the batching plant should be such that it can be shifted quickly.

iii) Transporting

Plant mix lean concrete shall be discharged immediately from the mixer, transported directly to the point where it is to be laid and protected from the weather by covering with tarpaulin during transit. The concrete shall be transported by tipping trucks, sufficient in number to ensure a continuous supply of material to feed the laying equipment to work at a uniform speed and in an uninterrupted manner. The lead of the batching plant to the paving site shall be such that the travel time available from mixing to paving as specified in Para 16.5.2 will be adhered to. Tipping truck shall not have old concrete sticking to it. Each tipping truck shall be washed with water jet before next loading as and when required after inspection.

iv) Placing

Lean concrete shall be laid by a paver with electronic sensor on the sub base layer or as specified. The equipment shall be capable of laying the material in one layer in an even manner without segregation, so that after compaction the total thickness is as specified. The paving machine shall have high amplitude tamping bars to give good initial compaction to the sub-base. One day before placing of the dry lean cement concrete sub-base the surface of the granular sub-base/drainage layer shall be given a fine spray of water and rolled with a smooth wheeled roller.

The Dry Lean Concrete shall be laid in such a way that it is at least 750mm wider on each side than the proposed width including paved shoulders of the concrete pavement. The extra widening beyond 750 mm width on either side shall be decided based on the specification of the paver, such that the crawler moves on the Dry Lean Concrete and the cost of extra width beyond 750 mm on either side, if any, shall be borne by the Contractor. For small works, the laying of concrete with paver may be dispensed with. Where laying of PQC is done by manual method, the extra 750 mm width Dry Lean Concrete on either side for crawler movement is not required.

v) Compaction

- a) The compaction shall be carried out immediately after the material is laid and levelled. In order to ensure thorough compaction, rolling shall be continued on the full width till there is no further visible movement under the roller and the surface is well closed. The minimum dry density obtained shall be 98 per cent of that achieved during trial length construction in accordance with clause 6. The densities achieved at the edges i.e. 0.5 m from the edge shall not be less than 96 per cent of that achieved during trial construction.
- b) The spreading, compacting and finishing of the lean concrete shall be carried out as rapidly as possible and the operation shall be so arranged as to ensure

that the time between mixing of the first batch of concrete in any transverse section of the layer and the final finishing of the same shall not exceed 90 minutes when the concrete temperature is between 25 and 30 degree Celsius and 120 minutes if less than 25 degree Celsius. The period may be reviewed by Engineer-in-Charge in the light of the results of the trial run but in no case shall it exceed 2 hours. Work shall not proceed when the temperature of the concrete exceeds 30 degree Celsius. If necessary, chilled water or addition of ice may be resorted to for bringing down the temperature. It is desirable to stop concreting when the ambient temperature is above 35 degree Celsius. After compaction has been completed, roller shall not stand on the compacted surface for the duration of the curing period except during commencement of next day's work near the location where work was terminated the previous day.

- c)** Double drum smooth-wheeled vibratory rollers of minimum 80 to 100 KN static weight are suitable for rolling dry lean concrete. In case any other roller is proposed, the same shall be got approved from Engineer-in-Charge, after demonstrating its performance. The number of passes required to obtain maximum compaction depends on the thickness of the dry lean concrete, the compatibility of the mix, and the weight and type of the roller and the same as well as the total requirement of rollers for the job shall be determined during trial run by measuring the in-situ density and the scale of the work to be undertaken.
- d)** A preliminary pass without vibration to bed the Dry Lean Concrete down shall be given followed by the required number of passes to achieve the desired density and, a final pass without vibration to remove roller with vibration marks and to smoothen the surface.
Special care and attention shall be exercised during compaction near joints, kerbs, channels, side forms and around gullies and manholes. In case adequate compaction is not achieved by the roller at these points, use of plate vibrator shall be made, if so directed by the Engineer-in-Charge.
- e)** The final lean concrete surface on completion of compaction shall be well closed, free from movement under roller and free from ridges, low spots cracks, loose material, pot holes, ruts or other defects. The final surface shall be inspected immediately on completion and all loose, segregated or defective areas shall be corrected by using fresh lean concrete material laid and compacted. For repairing honeycombed/hungry surface, concrete with aggregate of size 10 mm and below shall be spread and compacted as per specification. It is necessary to check the level of the rolled surface for compliance. Any level/thickness deficiency shall be corrected after applying concrete with aggregate of size 10 mm and below after roughening the surface. Strength test shall be carried out, and if deficiency in strength is noticed, at least three (evenly spread) cores of minimum 100 mm dia. per 5000 sqm shall be cut to check deficiency in strength. The holes resulting from cores shall be restored by filling with concrete of the specified strength and compacted by adequate rodding.

- f) Segregation of concrete in the tipping truck shall be controlled by moving the dumper back and forth while discharging the mix into the same or by any appropriate means. Paving operation shall be such that the mix does not segregate.

vi) Joints

Construction and longitudinal joints shall be provided as per the drawings. Transverse butt type joint shall be provided at the end of the construction in a day. Longitudinal construction joint shall be provided only when full width paving is not possible. Transverse joints in Dry Lean concrete shall be staggered from the construction butt type joint in concrete pavement by 800-1000 mm.

Longitudinal joint in Dry Lean Concrete shall be staggered by 300-400 mm from the longitudinal joint of concrete pavement.

At longitudinal or transverse construction joints, unless vertical forms are used, the edge of compacted material shall be cut back to a vertical plane where the correct thickness of the properly compacted material has been obtained.

vii) Curing

After two to three hours i.e. when concrete has started setting /hardening, the exposed surfaces shall be kept damp with moist gunny bags, sand or any other material approved by the Engineer-in-Charge or by sprinkling water. 24 hours after compaction, the exposed surface shall be kept continuously in damp or wet condition by ponding or by covering with a layer of sacking, canvas, hessian or similar materials and kept constantly wet for at least 7 days from the date of laying where Ordinary Portland Cement is used and this period of curing shall be 10 days from the date of laying when Portland Pozzolana Cement /Portland slag cement is used.

5. Trial Mixes

The contractor shall make trial mixes of dry lean concrete with moisture contents like 5.0, 5.5, 6.0, 6.5 and 7.0 per cent using specified cement content and the specified aggregate grading but without violating the requirement of aggregate-cement ratio specified in clause 3 (i). Optimum moisture and density shall be established by preparing cubes with varying moisture contents. Compaction of the mix shall be done in three layers with vibratory hammer fitted with a square or rectangular foot (as in appendix 'A-1'). After establishing the optimum moisture, a set of six cubes shall be cast at that optimum moisture for the determination of compressive strength on third and the seventh day. Trial mixes shall be repeated if the strength is not satisfactory either by increasing cement content. After the mix design is approved, the Contractor shall construct a trial section in accordance with clause 6.

If during the construction of trial area/patch, the optimum moisture content determined as above is found to be unsatisfactory, the contractor may make suitable changes in the moisture content to achieve the satisfactory mix. The cube specimens prepared with the change mix content should satisfy the strength requirement.

Before production of the mix, natural moisture content of the aggregate should be determined on a day-to-day basis so that the moisture content could be adjusted. The mix finally designed should neither stick to the rollers nor become too dry resulting in ravelling of surface.

6. Trial Length

- a) After finalizing the mix design, trial length/area as decided by the Engineer-in-Charge shall be prepared.
- b) After the construction of the trial length, the in-situ density of the freshly laid material shall be determined by sand replacement method. Three density holes shall be made at locations equally spaced along a diagonal that bisects the trial length average of these densities shall be determined. These main density holes shall not be made in the strip 500 mm from the edges. The average density obtained from the three samples collected shall be the reference density and is considered as 100 per cent. The field density of regular work will be compared with this reference density in accordance with clauses 4 (v) (a) and A.2 of Appendix 'A-1'.
- c) The hardened concrete shall be cut over 3m width and reversed to inspect the bottom surface for any segregation taking place. The trial length shall be constructed after making necessary changes in the gradation of the mix to eliminate segregation of the mix. The lower surface shall not have honeycombing and the aggregates shall not be held loosely at the edges.
- d) The main work shall not start until the trial length has been approved by the Engineer-in-Charge. After approval has been given, the materials, mix proportions, moisture content, mixing, laying, compaction plant and construction procedures shall not be changed without the approval of the Engineer-in-Charge.

7. Tolerance for Surface Regularity, Level, Thickness, Density and Strength

- a) **Surface Regularity:** The maximum allowable difference between pavement surface and underside of a 3 m straightedge when placed parallel with or at right angles to the centre line of pavement at points decided by the Engineer-in-Charge shall not be more exceed 10 mm for dry lean concrete.
- b) **Surface level: The tolerance in surface level for dry lean concrete shall not vary ±6 mm with reference to the longitudinal and cross-profile of the pavement shown on the drawing or as directed by Engineer-in-Charge.**
- c) Thickness, density and strength shall be as per Appendix 'A-1'.
- d) Quality control test on the materials and the work and minimum frequencies shall be as under:

S. No.	Test	Test Method	Minimum desirable frequency
1.	Quality of cement	IS:269/ 455/ 1489	As required
2.	Los Angeles Value/ Abrasion Aggregate Impact value	IS:2386 (Part IV)	One test per 200m 3
3.	Aggregate gradation	IS: 2386 (Part I)	One test per 100m ³
4.	Aggregate moisture content/ Water absorption	IS: 2386 (Part III)	As required

5.	Wet analysis of mix	IS:1119	As required
6.	Control of grade, camber thickness and surface finish	-	Regularly
7.	Cube strength of material mixed at site (3 samples)	IS:516	One test per 1000 Sqm or part thereof

e) Rectification:

The defective length of the Dry Lean Concrete course shall be removed to full depth and replaced with material conforming to the specification. Before relaying the course, the disturbed subgrade or layer below shall be corrected by levelling, watering and compacting.

8. Traffic

No heavy vehicles shall be permitted on the lean concrete sub-base after its construction. Light vehicles if unavoidable may, however, be allowed after 7 days of its construction with prior approval of the Engineer-in-Charge.

9. Measurement for Payment

The unit of measurement for dry lean concrete pavement shall be cubic meter of concrete placed. This shall be determined from the top levels of the under layer and the final levels of the consolidated dry lean concrete as mentioned below: -

Before laying dry lean concrete, the top levels of under layer shall be taken jointly by the Engineer-in-Charge or his representative and the contractor at 3 meters intervals both ways or closer as directed by the Engineer-in-Charge. These levels shall be recorded on the plan as well as in the level book and the record shall be signed by the contractor. The levels of the consolidated dry lean concrete shall again be taken and plotted on the plan and recorded in the level book, to determine the average thickness laid, on the basis of these levels. The volume of mix laid consolidated and finished, shall then be the product of the measured surface area and the average thickness laid.

10. Rate

The contract unit rate payable for dry lean concrete sub-base shall be for carrying out the required operations including all labour, materials and equipment, mixing, transport, placing, compacting, finishing, curing, rectification of defective surfaces, testing as per Specifications, all royalties, fees, storage and rents where necessary and all leads and lifts.

Dry Lean Concrete

A.1 Sampling and Testing of Cubes

Samples of dry lean concrete for making cubes shall be taken from the uncompacted material from different locations immediately before compaction at the rate of 3 samples for each 1000 Sqm or part thereof laid each day. The sampling of mix shall be done from the paving site.

Test cubes of 150mm size shall be made immediately from each mix sample.

Cubes shall be made in accordance with the methods described in IS:516 except that the cubes shall be compacted by means of a vibratory hammer with the moulds placed on a level and rigid base. The vibrating hammer shall be electric or pneumatic type fitted with a square or rectangular foot having an area of between 7500 to 14000 Sqm. The compaction shall be uniformly applied for 60 + 5 seconds with a downward force of between 300 N and 400 N on to each of the three layers of the lean concrete material placed into the mould. The surface of each compacted layer shall be scarified before the next layer is added to give key for the next layer. The final layer shall be finished flush with the top of the cube mould.

The dry lean concrete shall be cured in accordance with IS:516.

A.2 In-Situ Density

The dry density of the laid material shall be determined from three density holes at locations equally spaced along a diagonal that bisects each 2000 sqm or part thereof laid each day and shall comply with the requirements as per Clause 4 (v) (a). This rate of testing may be increased at the discretion of the Engineer in case of doubt or to determine the extent of defective area in the event of non-compliance. Density holes at random may be made to check the density at edges.

A.3 Thickness

The average thickness of the sub base layer as computed by the level data of sub-base and subgrade or lower sub-base shall be as per the thickness specified in the contract drawings. The thickness at any single location shall not be 8mm less than the specified thickness. Such areas shall be corrected as stated in Clause 4 (v) (e). Areas which cannot be repaired should be replaced over full width. The extent of deficient area should be decided based on cores.

Item No. 8

Providing and laying Pavement Quality Concrete (PQC) produced in a batching and mixing plant having a Characteristic flexural strength i.e. flexural strength of 4.1 MPa at 28 days using Ordinary Portland cement of 43/53 grade or Portland Pozzolana Cement or Portland Slag cement conforming as per relevant IS codes, to be mixed at site, with 0.5% Super plasticizer by mass of cementitious material, fine aggregate, graded stone aggregates of 40 mm nominal size in appropriate proportion as per specification and job mix formula, laid in panels as per drawings/design as approved by the Engineer-In-Charge using Slip Form Paver or Fixed form paver including anti friction layer, joint filler board, making necessary provision for expansion, dummy and construction joint including filling with Polysulphide sealant of approved make, curing and making profile, complete as per direction of Engineer-in-Charge and specifications. The item for execution shall include all operations making pavement for intended use but not limited to following:

(i) Polyethylene sheet (White in color) of thickness 400 micron conforming to IS: 2508 with 6mm thick fine sand layer.

(ii) Providing and laying in position for expansion joint, 25mm thick pre-cut Synthetic joint filler board of approved make conforming to IS:1838(part 3)-2011, 45 mm from top (to be removed at the time of filling of Polysulphide sealant).

(iii) Mechanically cutting dummy joints 3mm wide x 1/3rd thickness of slab which is subsequently widened to 10mm for the top 25mm depth and construction joints 10mm wide x 25mm deep as per specification.

(iv) Providing and laying in position Polysulphide sealant of approved make conforming to BS-5212-1990 or IS: 11433-1995 in expansion/ construction / dummy joints including rounding off edges, applying 2 coats of approved primer compatible with the brand of Polysulphide and preparing the surface and applying masking tape along the edge of joint to prevent accidental spillage of sealant on top surface and to give neat finish to the sealant and removing the masking tape after application of sealant etc. as per the details below:

(a) Expansion Joints of size 25 mm wide and 10 mm deep over 30mm dia expanded closed-cell Polyethylene foam back-up/backer rod of minimum density 22 Kg/Cum, as per manufacturer's specifications and sketch at Appendix-'A'.

(b) Construction Joints of size 10 mm wide and 10 mm deep over 12mm dia expanded closed-cell Polyethylene foam back-up/backer rod of minimum density 22 Kg/Cum, as per manufacturer's specifications and sketch at Appendix-'A'.

(c) Dummy Joints of size 10 mm wide and 10 mm deep over 12 mm dia expanded closed-cell Polyethylene foam back-up/backer rod of minimum density 22 Kg/Cum, as per manufacturer's specifications and sketch at Appendix-'A'.

(v) Making profile as per DGCA CAR, panel drawing showing dummy, construction, expansion joints location.

Note:

- a) Areas inaccessible to paving equipment shall be constructed by manual/hand guided method. Areas in which manual/hand guided methods of construction become indispensable shall be got approved by the Engineer-in-Charge in writing in advance.
- b) The quantity of cement, type of cement and super plasticizer for one Cum. of finished concrete specified are for tendering purpose only. The contractor shall quote his rates assuming quantity of OPC cement as 360 Kg/Cum or 400 Kg of

Portland Pozzolana Cement/ Portland Slag cement. In addition, if the actual quantity of cement & super plasticizer required as per laboratory mix design varies from the quantity assumed above, necessary cost adjustment for deviation in the quantity of cement and super plasticizer as per mix design, if any, shall be done as per the rate of cement and super plasticizer in actual supply voucher from manufacturer/ authorized dealer at the time of execution. In the case of authorized distributor, the rate may be authenticated by the manufacturer. The rate of cement and super plasticizer exclusive of GST shall only be considered for payment.

1.0 MATERIALS

1.1 CEMENT

- a) Ordinary Portland Cement 43 Grade conforming to IS: 269-2015.
- b) Ordinary Portland cement 53 grade conforming to IS: 269-2015. Following extra precautions shall be taken:
 - ii) Proper mix design may be done to account for shrinkage/microcracking due to higher heat of hydration.
 - iii) The temperature of aggregate, water and cement should be maintained at the lowest practical levels, so that temperature of concrete is
below 300 C at the time of placement.
 - iv) Aggressive curing of concrete to avoid cracking shall be done keeping surface continuously wet by providing wet hessian cloth etc, before continuous curing i.e. after 24 hours of laying.
 - v) Use of 53 grades OPC shall be avoided in case of hot weather concreting.
- c) Factory Produced Portland Pozzolana Cement (Flyash based) conforming to IS: 489 (Part-I)-2015.
- d) Portland Slag Cement conforming to IS:455-2015.
- e) Sulphate Resisting Portland cement conforming to IS: 12330 (If soluble saltlike sulphate in subgrade is more than 0.5%).

Note:

- i) High alumina cement is not permitted to be used.
- ii) Agency should submit copies of purchase voucher to the Engineer-in-Charge and original to be produced for verification.

1.1.1 Supply of Cement shall be obtained either in bulk form or as per clause 3.1.2.5 of CPWD specifications Vol-I, 2019. Tests on cement shall be done as per clause 16.1 under quality control and nothing extra shall be paid on this account.

1.1.2 SUPER PLASTICIZER

Super Plasticizer conforming to IS: 9103 may be used to improve the workability of concrete.

1.2 WATER

Water for mixing and curing concrete will ordinarily be obtained from a source which is used for drinking. Where water from such a source is not available, the contractor shall ensure that it is clean and free from injurious quantities of acid, alkalies, salts, alcohol, silt, oil, organic matter etc. and conforms to IS:

456 (latest revision). In order to ensure that the water does not contain impurities in injurious proportions, the contractor shall get the water tested in one of the approved testing laboratories at his own expense. Nothing extra shall be paid on this account. In such cases, the provisions laid down in clause 5.4 of IS: 456 (latest revision) shall be binding. Test on water should be repeated whenever there is change in the source.

1.3 COARSE AGGREGATES

These shall be natural materials conforming to IS: 383(latest revision) but with Los Angeles Abrasion value not more than 30 per cent. These shall be crushed or broken from hard stones obtained from approved quarry. These shall be clean, strong, durable of fairly cubical shape and free from soft, friable, thin elongated and laminated/ disintegrated pieces. These shall also be free from dirt, organic, deleterious and any other foreign matter and adherent coatings and shall satisfy the physical requirement laid down in clause 16.1 under quality control. Nothing extra shall be paid for testing of material. Manufactured aggregate shall also be allowed subject to meeting the requirement of IS 383.

- 1.3.1 Some aggregates may contain ferrous sulfides and iron oxides which can cause stains on exposed concrete surfaces. In areas where staining has been a problem or is suspected, the Engineer should verify that producers and aggregate suppliers have taken steps to prevent the inclusion of any ferrous sulfides or iron oxides in aggregate to be used in the project.

If there is a concern that these may exist, an indicator to identify staining particles is to immerse the aggregate in a lime slurry. If staining particles are present, a blue-green gelatinous precipitate will form within 5 to 10 minutes, rapidly changing to a brown color on exposure to air and light. The reaction should be complete in 30 minutes. If no brown gelatinous precipitate forms, there is little chance of reaction in concrete.

1.4 FINE AGGREGATE

The fine aggregate shall be coarse sand consisting of clean natural sand or crushed stone sand or a combination of the two and shall conform to IS: 383 and clause

3.3.4 of IRC 15-2017 and shall satisfy the physical requirement laid down in clause 16.1 under quality control. Nothing extra shall be paid for testing of material. Fine aggregate shall be free from soft particles, clay, shale, loam, cemented particles, mica, organic and other foreign matter. Manufactured fine aggregate shall also be allowed subject to meeting the requirement of IS 383.

1.5 COMBINED GRADING OF AGGREGATES

The grading of all aggregates (coarse and fine aggregates) to be used on specific job shall be determined in the material testing laboratory (approved by AAI/Govt. Institutions i.e., IITs, NITs, Govt. Engg. Colleges) or in-house by Department of Structure as directed by the Engineer-In-Charge. The coarse and fine aggregates shall be mixed in suitable proportions so that the grading of the mixed aggregates shall be in the range indicated in the table below:

I.S. Sieve Size	%age passing by weight
45 mm	100
22.4 mm	55-60
11.2 mm	45-50
5.6 mm	35-40
2.8 mm	30-35
1.4 mm	20-25
710 micron	15-20
355 micron	8 -14
180 micron	0-5

If the combined aggregate grading calculated thereof does not meet the specified grading requirements, appropriate adjustment shall be made in the proportions of different aggregate fractions. Any deviation to the overall grading shall be made only with the specific approval of Engineer-In-Charge and nothing extra shall be paid for such adjustment. Design of mix shall be redone if there is a change in the source of coarse or fine aggregates or type of cement as per Para

1.1. Nothing extra shall be paid for such testing and designing.

1.6 ANTI-FRICTION LAYER

1.6.1 Anti-friction layer shall be provided between the concrete slab and the DRLC surface. Before placing the anti-friction layer, the sub-base shall be swept clean of all the extraneous materials and a layer of 6mm fine sand shall be laid. On sand layer, polyethylene sheet (white in colour) of thickness 400 micron conforming to IS: 2508, with overlaps of not less than 300mm longitudinally and 300mm transversely shall be laid. Any damaged sheeting shall be replaced at the contractor's expenses. The anti-friction layer shall be nailed to the lower layer with concrete nails.

1.6.2 COMPOSITION

1.6.2.1 Natural Compound

1.6.2.1.1 The compound used for manufacturing natural film shall consist only of polyethylene resins complying with 1.7.2.1.2. Any additives, such as anti-oxidants, to impart additional qualities to the films, such as slip, may be added in quantity to the resins, as agreed to between the supplier and the purchaser.

- 1.6.2.1.2 The polymers for the natural film shall have a melt flow index between 0.10 to 15.0 g/10 min. The density for the compound from which the film is made shall be between 0.913 to 0.923 g/ml at 27°C (0.915 to 0.925 g/ml at 23°C).
- 1.6.3 Appearance - The film shall be uniform in colour, texture and finish. The material shall be substantially free from pin-holes and undispersed raw materials, streaks and particles of foreign matter. There shall be no other visible defects, such as holes, tears or blisters. The edges shall be free from nicks and cuts visible to unaided eye. The natural films shall be free from pin-holes.
- 1.6.4 Odour - The film shall be free from any objectionable odour.
- 1.6.5 Density - The density of the film, when determined in accordance with A-1 of IS 2508 or Method 5 of IS: 8543 (Part 1/Set 2)-1979 shall be as prescribed in 1.7.2.1.2. However, in case of dispute, the latter shall be the preferred method.
- 1.6.6 Melt Flow Index - The melt flow index of the film when determined in accordance with 7 of IS: 2530-19637 shall be as prescribed in 1.7.2.1.2.
- 1.6.7 Tensile Strength at Break - The tensile strength at break when tested as prescribed in A-4 of IS 2508 for all thicknesses of polyethylene film shall be not less than 11.77 MN/m² (120 kgf/ cm²) in lengthwise direction and 8.33 MN/m² (25 kgf /cm²) in crosswise direction.

2.0 HANDLING AND STORAGE OF MATERIALS

2.1 CEMENT

The Contractor shall provide adequate storage facilities to prevent deterioration of cement during storage due to climate and other causes. Wherever bulk storage containers are used, their capacity should be sufficient to cater to the requirement at site. The containers shall be cleaned at least once every 3 months. Cement remaining in stores for more than one and half month from the date of manufacture must be retested before use and to be rejected, if it fails to conform to any of the requirements of the specifications.

2.2 AGGREGATES

- a) Stock piles shall be made immediately on receipt of aggregates at site of work. Aggregates shall be stacked separately according to the nominal sizes of coarse aggregates. For fine aggregates, separate stacks shall be made.
- b) Aggregates shall be stacked on a hard surface so as to exclude the possibility of soil or grass being mixed up. When stacked in close proximity, the stock piles shall be separated by bulk heads to prevent the different sizes of aggregates from mixing together. Special care shall be taken to clean and wash the last layer of aggregates in contact with ground surface before use.

- c) Before batching, the aggregates shall have been stock piled for at least 24 hours to allow for draining of water, if any. The Contractor shall make adequate provision for stock piling aggregates to the extent sufficient to meet the needs of the work taking into account the availability of supplies and rates of delivery etc. and nothing extra shall be paid for necessary double handling and transport of materials from stock piles to mixing plant etc.
- d) Grading of coarse and fine aggregate shall be checked as per clause 16.1 under quality control to ensure that the suppliers are maintaining the uniform grading as approved for samples used in the mix design.

3.0 MIX DESIGN

3.1 The concrete mix shall be got designed by the Contractor in the material testing laboratory (approved by AAI/Govt. institutions i.e., IITs, NITs, Govt. Engg. Colleges) or in-house by Department of Structure as directed by the Engineer-In-Charge so as to obtain the target average flexural strength. The margin over characteristic strength is as below:

Characteristic flexural strength (beam) at 28 days, (fcr)	= 4.1 MPa
Normal variate for the desired confidence level, (Z)	= 1.65
Assumed value of Standard Deviation, (s)	= 0.4 MPa
Target average flexural strength at 28 days, f'cr	= fcr + 1.65 x s
f'cr	= 4.1 + 1.65 x 0.4
	= 4.76 MPa
	Say, 4.8 MPa

Water cementitious ratio by weight = 0.45 (Maximum)

Slump = 25 ± 15 mm for slip/fixed form paver
= 40 ± 10 mm for manual method

Any change in the source of materials or mix proportions including change of brand of cement proposed by the Contractor during the course of work shall be assessed by making laboratory trial mixes and same shall be incorporated in work with written approval of concerned Engineer-In-Charge.

In case services of Department of Structure, AAI is utilized for mix design and other testing if any, contractor shall be charged extra as per prevalent charges and same shall be deducted from contractor bills. Contractor quoted rates shall be deemed to be inclusive of same and nothing extra shall be payable.

3.2 The quantity of cement, type of cement and super plasticizer for one Cum. of finished concrete specified in the item are for tendering purpose only. Necessary cost adjustment shall be done as per formula laid down below:

3.2.1 OPC 43/53 grade of Cement:

If the actual quantity of OPC 43/53 grade of Cement required as per laboratory mix design varies from 360 Kg/Cum, necessary cost adjustment for deviation in the quantity of OPC 43/53 grade of Cement shall be done as per the rate of OPC 43/53 grade of Cement in actual supply voucher from manufacturer/authorized dealer at the time of execution. In the case of authorized dealer the rate may be authenticated by the manufacturer. The rate of OPC 43/53 grade of Cement exclusive of GST shall only be considered for payment. In no case quantity of OPC 43/53 grade of cement shall fall below 330 Kg/Cum. Extra payable/deductible rate shall be calculated in following manner:

Cost of OPC 43/53 grade of Cement above/below 360Kg/Cum : 'X'

Add 1% Water Charges on
'X'

Add 15% CP & OH on total adding 1% water charges

Add 1% labour Cess on total after adding 15% CP & OH : Say 'A'

3.2.2 Portland Pozzolana Cement or Portland Slag cement:

If the actual quantity of Portland Pozzolana Cement or Portland Slag cement required as per laboratory mix design varies from 400 Kg/Cum, necessary cost adjustment for deviation in the quantity of Portland Pozzolana Cement or Portland Slag cement shall be done as per the rate of Portland Pozzolana Cement or Portland Slag cement in actual supply voucher from manufacturer/authorized dealer at the time of execution. In the case of authorized dealer the rate may be authenticated by the manufacturer. The rate of Portland Pozzolana Cement or Portland Slag cement exclusive of GST shall only be considered for payment. In no case quantity of Portland Pozzolana Cement or Portland Slag cement shall fall below 330 Kg/Cum. Extra payable/deductible rate shall be calculated in following manner:

Cost of Portland Pozzolana Cement or Portland Slag cement above/below 400Kg/Cum : 'X' Add 1% Water Charges on 'X'

Add 15% CP & OH on total adding 1% water charges

Add 1% labour Cess on total after adding 15% CP & OH : Say 'A'

3.2.3 SUPER PLASTICIZER

If the actual percentage of Super plasticizer by mass of cementitious material varies from 0.5%, Extra payable/ deductible rate shall be calculated in following manner:

Extra/ less cost of super plasticizers over or below 0.5% of cementitious material : 'X'

Add 1% Water Charges on 'X'

Add 15% CP & OH on total adding 1% water charges

Add 1% labor Cess on total after adding 15% CP & OH : Say 'A'

The rate of super plasticizers shall be as per actual supply voucher from manufacturer/authorized dealer at the time of execution. In the case of authorized dealer the rate may be authenticated by the manufacturer. The rate of super plasticizer exclusive of GST shall only be considered for payment.

- 3.3** At the time of tendering, the Contractor, after taking into account the type of aggregates, plant and method of laying he intends to use, shall allow in his tender for aggregate/cement and water cement ratios which he considers will achieve the specified strength. These ratios shall, however, not exceed the ratios stipulated in para 3.1 and shall produce a workability, which shall enable concrete to be properly compacted to its full depth and finished to the surface tolerance specified.
- 3.4** No concrete shall be laid nor any payment made thereof unless the concrete mix design is submitted by the Contractor and is approved by the concerned Engineer- In-Charge and communicated in writing. This mix design shall be provisional and subject to obtaining satisfactory results with trial mixes. Final approval shall be issued only after getting the satisfactory test report from trial mixes.
- 3.5** Laboratory charges for mix design, cost of materials, its cartage and other incidental expenses shall be borne by the Contractor.
- 3.6** Guidelines for Cement Concrete Mix Design for Pavements can be followed as per IRC: 44 -2017 and SP: 23-1982.
- 4.0** FIELD TRIAL MIXES
- 4.1** Preliminary trial mixes shall be made and tested. Trial mixes shall also be made if a change is intended subsequently in the source of supply of materials/quality of materials or in the proportions of the materials to be used.
- 4.2** Samples of concrete shall be taken at the concrete batching plant and work beams made, cured and tested in accordance with IS: 1199 and IS: 516, as per clause 4.3 given below.
- 4.3** Representative samples of materials to be used shall be taken and trial mix using the proposed proportions shall be made, two samples each on three different days. Each sample shall consist of 6 beam specimens, three for testing at 7 days and three at 28 days and a total of 36 beams shall be made in three days. The workability of each of these six trial mixes shall be determined. The test strength of the sample shall be the average strength of 3 specimens but individual variation should not be more than +15%. Otherwise, new trial mix corresponding to the initially approved sample will have to be made. The proposed mix proportion shall not be accepted if the average of 28 days beam strength of 6 trial mixes is

not satisfying the provisions as per para 16.4.1. The mix shall be suitably modified if the strength do not meet the criteria as specified.

- 4.4** The mix design shall be got approved from concerned Engineer-In-Charge. The design mix, thus approved shall be intimated to the Contractor by the Engineer-in- Charge with full data and clear understanding that the mix proportion specified is provisional subject to the verification of level of control at the site.
- 4.5** 30 beams and 30 cubes shall be cast for deriving the relationship between flexural strength and compressive strength i.e. K-value, by the Engineer-In-Charge and the same shall be got approved from concerned General Manager Engg (Project)/work. This K-value shall be used for calculation of required core strength in clause 16.4.3.
- 4.6** During the progress of work, samples of concrete shall be taken at the concrete batching plant and work beams made, cured and tested in accordance with IS: 1199 and IS: 516. Acceptance criteria for this shall be as per para 16.4.1.
- 4.7** All samples for tests shall be taken in the presence of the Engineer-in- charge and the contractor or their authorized representatives.

5.0 SLUMP TEST

- 5.1** Slump tests shall be carried out as per IS: 1199 (latest revision). A slump test shall be carried out as per clause 16.1 under quality control or more and frequently, if directed by the Engineer-in-Charge. Any batch from which slump test is being made shall not be transferred to the place of laying till the slump test has been completed and result approved. Not only the batch which gives a slump in excess of that specified shall be rejected but the concrete already laid immediately preceding the batch tested up to the nearest last transverse joint may be rejected by the Engineer-in- Charge or his representative, if he is satisfied that such preceding batches were sub- standard in this respect. The decision of the Engineer- in-Charge in this respect shall be final and binding on the contractor. Such rejected concrete shall be removed by the Contractor immediately and replaced with proper concrete at his own cost and expense.

6.0 BATCHING AND MIXING OF CONCRETE

- 6.1** A system approach should be adopted for construction of pavement, and the method statement for carrying out the work, detailing all the activities including indication of time cycle, equipment, personnel etc. shall be got approved from the Engineer-in-Charge before the commencement of work. The above shall include the type, capacity and make of batching and mixing plant beside the hauling arrangement and paving equipment. The capacity of paving equipment, batching plant as well as all the ancillary equipment shall be adequate for a paving requirement for day's work.
- 6.2** Batching and mixing of the concrete shall be done at a central batching and mixing plant of adequate capacity as per work program with automatic controls, located at suitable place which takes into account sufficient space for stock piling of cement, aggregate and stationary water tanks. This shall be however, situated at an

approved distance, duly considering the properties of the mix and transport arrangements available with the contractor.

- 6.3** Proportioning of a material shall be done in the batching plant by weight, each type of material being weighed separately. The cement from the bulk stock may be weighed separately from the aggregates and water shall be measured by volume. Wherever properly graded aggregate of uniform quality cannot be maintained as envisaged in the mix design the grading of aggregates shall be controlled by appropriate blending techniques. The capacity of batching and mixing plant shall be at-least 25% higher than the proposed capacity for the laying/ paving equipment.
- 6.4** The batching plant shall include preferably four bins, weighing hoppers, and scales for the fine aggregate and for each size of coarse aggregate. If cement is used in bulk (after opening bags on platform) a separate scale for cement shall be included. The weighing hoppers shall be properly sealed and vented to preclude dust during operation. Approved safety devices shall be provided and maintained for the protection of all personnel engaged in plant operation, inspection and testing. The batch plant shall be equipped with a suitable non resettable batch counter which will correctly indicate the number of batches proportioned.
- 6.5** Bins preferably with four adequate separate compartments shall be provided in the batching plant.
- 6.6** Batching plant shall be equipped to proportion aggregates and bulk cement by means of automatic weighing devices using load cells. The weighing device shall have an accuracy within + 1% in respect of quantity of cement and water and + 2% in respect of aggregates and accuracy shall be checked at least once a month.
- 6.7** Mixers shall be pan type, reversible type with single or twin shaft or any other mixer capable of combining the aggregates, cement and water into a thoroughly mixed and uniform mass within the specified mixing period and of discharging the mix without segregation. Each stationary mixer shall be equipped with an approved timing device which will automatically lock the discharge lever when the drum has been charged and release it at the end of the mixing period. The device shall be equipped with a bell or other suitable warning device adjusted to give a clearly audible signal each time the lock is released. In case of failure of the timing device the mixer may be used for the balance of the day while it is being repaired provided that each batch is mixed for 90 seconds or as per the manufacturer's recommendation. The mixer shall be equipped with a suitable non resettable batch counter which shall correctly indicate the number of batches mixed.
- 6.8** The mixer shall be cleaned at suitable intervals. The pickup and throw over blades in the drum or drums shall be repaired or replaced when they are worn down 20mm or more. The contractor shall have available at the job site a copy of the manufacturer's design, showing dimensions and arrangements of blades in reference to original height and depth or provide permanent marks on blade to

show points of 20mm wear from new conditions. Drilled holes of 5mm diameter near each end and at mid-point of each blade are recommended. Batching plant shall be calibrated for the each ingredients upto its maximum quantity being used in the mix at site in the beginning and thereafter at suitable interval not exceeding one month.

6.9 Air-conditioned centralized computer control cabin shall be provided for automatic operation of the equipment.

6.10 The design feature of the batching plant should be such that it can be shifted quickly.

6.11 Concrete mixed as above is not to be modified by the addition of water or otherwise in order to facilitate handling or for any other purpose.

7.0 PAVING EQUIPMENT

7.1 The concrete shall be placed with Slip Form Paver/Fixed form paver (with independent units to spread, consolidate from the mound, screed and float-finish, texture and cure) or Manual method as per the item/as approved by Engineer-in- Charge. If the concrete is to be laid by slip form paver, the paver shall be equipped with electronic controls to control the line and grade from either one side or both sides of the machine.

7.2 Vibrators shall operate at a frequency and spacing recommended by the manufacturer. The variable vibration setting shall be provided in the machine.

7.3 The contractor shall provide adequate no. of concrete saws with sufficient no. of diamond edge saw blades. The saw machine shall be either electric or petrol/diesel driven type. A water tank with flexible hose and pump shall be made available for this activity on priority basis. The contractor shall have at least one standby saw in good working condition. The concreting work shall not commence if the saws are not in working condition.

7.4 Guide wires for Slip form Paver

7.4.1 Guide wire shall be provided along both sides of the slab. Each guide wire shall be at a constant height above and parallel to the required edge of the slab as described in the contract/drawing within a vertical tolerance of + 2 mm. Additionally, one of the wires shall be kept at a constant horizontal distance from the required edge of the pavement as indicated in the contract /drawing with a lateral tolerance of +10mm.

7.4.2 The guide wires shall be supported on stakes 5-6 meters apart by connectors capable of fine horizontal and vertical adjustment. The guide wire shall be tensioned on the stakes so that a 500 grams weight shall produce a deflection or not more than 20mm when suspended at the midpoint between any pair of stakes. The ends of guide wire shall be anchored to fixing point or winch and not on the stakes.

- 7.4.3 The stakes shall be positioned and the connectors maintained at their correct height and alignment 12 hrs. on the day before concreting takes place until 12 hrs. after finishing of the concrete. The guide wires shall be checked and tensioned on the connectors at any section at least 2 hrs. before concreting that section.
- 7.4.4 The contractor shall submit to the Engineer-In-Charge for his approval of line and level, the stakes and connectors which are ready for use in the length of pavement to be constructed next day. Such approval shall be obtained at least 12 hrs. before commencement of paving operation. Any deficiencies noted by the Engineer-in- Charge shall be rectified by the contractor who shall then reapply for approval of the affected stakes. Work shall not proceed until the Engineer- in-Charge has given his approval. It shall be ensured the stakes and guide wires are not affected by the construction equipment when concreting is in progress.
- 7.5 Side Forms and Rails for Fixed form paver**
- 7.5.1 All side forms shall be of mild steel channels of depth equal to the thickness of pavement or slightly less to accommodate the surface irregularity of the sub base. The forms can be placed in series of steel packing plates or shims to take care of irregularity of sub base. They shall be sufficiently robust and rigid to support the weight and pressure caused by a paving equipment.
- 7.5.2 Side forms for use with wheeled paving machines shall incorporate metal rails firmly fixed at a constant height below the top of the forms. The forms and rail shall be firmly secured in position by not less than 3 stakes/pins for every 3 meter length so as to prevent movement in any direction. Forms and rails shall be straight within a tolerance of 3 mm in 3 meter and when in place shall not settle in excess of 1.5 mm in 3 meter while paving is being done. Forms shall be cleaned and oiled immediately before each use.
- 7.5.3 The forms shall be bedded on a continuous bed of low moisture content lean cement mortar or concrete and set to the line and levels shown on the drawings within tolerances of + 10 mm and + 2 mm respectively. The bedding shall not extend under the slab and there shall be no vertical step between adjacent forms of more than 2 mm. The forms shall be got inspected by the Engineer-in-Charge for his approval 12 hrs. before construction of the slab and shall not be removed until at least 12 hrs. Afterwards. No concreting shall commence till form work has been approved by the Engineer-in-Charge.
- 7.5.4 At all times sufficient forms shall be used and set to the required alignment for required length of pavement immediately in advance of the paving operations, or the anticipated length of pavement to be laid within the next 24 hrs.
- 7.5.5 Forms shall be fixed in advance as per specifications. Before any paving is done the site shall be shown to the Engineer-in-Charge in order to verify the arrangement for paving as per the relevant clauses of this specification. The mixing and placing of concrete shall progress only at such a rate as to permit proper finishing, protecting and curing of the pavement.

7.6 Steel Forms for Manual Method

- 7.6.1 Manual method may be adopted where execution with slip form paver is not feasible. All side forms shall be of mild steel. The steel forms shall be of mild steel sturdy channels sections and their depth shall be equal to the thickness of the pavement.
- 7.6.2 The side forms shall have a length of at least 3.0 meters except on curves of less than 45 meters radius where shorter length may be used. When set to grade and stacked in place the maximum deviation of the top surface of any section from a straight line shall not exceed 2 mm in the vertical plane and 5 mm in the horizontal plane. The method of connection between sections shall be such that the joint formed shall be free from difference in level, play or movement in any direction. The use of bent, twisted or worn out forms will not be permitted. At least three stake pickets for each 3.0 m of form and the bracing and support must be ample to prevent springing of the forms under the pressure of concrete or the weight or thrust of machinery operating on the forms.
- 7.6.3 The supply of forms shall be sufficient to permit their remaining in place for 12 hrs. after the concrete has been placed or longer, if in the opinion of the Engineer- in- Charge, it is necessary.
- 7.6.4 The top line of the forms is not to vary from the correct level or alignment and the levels and alignment of the forms are to be checked and corrected as necessary immediately prior to the placing of concrete. The top edges and faces of the forms are to be carefully cleaned and maintained in clean condition.
- 7.6.5 While removing the steel forms, care shall be taken to withdraw them gradually. Any damages to the bull nosed edges shall be made good while the concrete is still green, as directed by the Engineer-in- Charge.
- 7.6.6 Setting of forms shall be according to the slab plan subject to the approval of the Engineer-in-Charge and concreting shall not commence until the setting offforms is approved.
- 7.6.7 Forms shall be set at least 50 meters length in advance of the point where the concrete is being laid and shall not be removed until at least 12 hrs. of the placing of concrete or longer if in the opinion of Engineer- in-Charge, it is necessary. After setting, the working faces shall be thoroughly oiled using approved oil but before concrete is placed against them.
- 7.6.8 Sufficient rigidity shall be obtained to support the forms in such a position during the entire operation of compaction and finishing that they will not at any time deviate more than 3 mm from a straight edge 3 meters in length. Forms which show a variation from the required rigidity or the alignment and levels shown on the plans, shall be reset or removed, as directed. The length and number of pins or stakes shall be such as to maintain the forms at the correct line and grade. All forms shall be cleaned and oiled each time before they are used.

8.0 HAULING AND PLACING OF CONCRETE

- 8.1** Freshly mixed concrete from the central batching and mixing plant shall be transported to the paver site by means of tippers/transit mixers of sufficient capacity and approved design in sufficient numbers to ensure a constant supply of concrete. Cover shall be used for protection of concrete against the weather. While loading the concrete, truck shall be moved back and forth under the discharge chute to prevent segregation. The tipping trucks shall be capable of maintaining the mixed concrete in a homogeneous state and discharging the same without segregation and loss of cement slurry. The feeding to the paver is to be regulated in such a way that paving is done in an uninterrupted manner with a uniform speed throughout the day's work. Tipping truck shall be washed at a regular frequency as prescribed by the Engineer-in-Charge to ensure that no left over mix of previous loading remains stuck.
- 8.2** Concrete mixed in central mixing plant shall be transported to the site without delay and the concrete which in the opinion of Engineer-in-Charge, has been mixed too long before laying will be rejected and shall be removed from the site. The total time taken from the addition of water to the mix until the completion of surface finishing and texturing shall not exceed 120 minutes when concrete temperature is less than 250C and 90 minutes when concrete temperature is between 250C to 300C. Tippers/transit mixers delivering concrete shall not run on completed slabs until after 28 days of placing of concrete.
- 8.3** In all cases the temperature of the concrete shall be measured at the point of discharge from the delivery vehicle.
- 8.4** The addition of water to the surface of the concrete to facilitate the finishing operations will not be permitted except with the approval of the Engineer- in-Charge when it shall be applied as a mist by means of approved equipment.
- 8.5** If considered necessary by the Engineer-in-Charge, the paving equipment shall be provided with approved covers to protect the surface of the slab under construction from direct sunlight and rain or hot wind.
- 8.6** As soon as the side forms are removed, edges of the slabs shall be corrected wherever irregularities have occurred by using fine concrete composed of 1:1:2, cement: sand: coarse aggregate (10 mm down) with water cement ratio not more than 0.4 under the supervision of Engineer-in-Charge.
- 8.7** If the requirement for surface regularity fails to be achieved on two consecutive working days then normal working shall cease until the cause of the excessive irregularity has been identified and remedied.
- 8.8** Construction by Slip Form Paver: The slip form paving train shall consist of power machines which spreads compacts and finishes the concrete in a continuous operation.

- 8.8.1 The slip form paving machine shall compact the concrete by internal vibration and shape it between the side forms with either a conforming plate or by vibrating and oscillating finishing beams. The concrete shall be deposited without segregation in front of slip form paver across the whole width and to a height which at all times in excess of the required surcharge. The deposited concrete shall be struck off to the necessary average and differential surcharge by means of the strike off plate or a screw auger device extending across the whole width of the slab. The equipment for striking-off the concrete shall be capable of being rapidly adjusted for changes of the average and differential surcharge necessitated by change in slab thickness or cross fall.
- 8.8.2 The level of conforming plate and finishing beam shall be controlled automatically for the guide wires installed by sensors attached at the four corners of the slip form paving machine. The alignment of paver shall be controlled automatically from the guide wire by at least one set of sensors attached to the paver. The alignment and level of ancillary machines for finishing, texturing and curing of the concrete shall be automatically controlled relative to the guide wire or to the surface and edge of an adjoining hardened slab.
- 8.8.3 Slip form paving machines shall have vibrators of variable output with a maximum energy output of not less than 2.5 KW per meter width of slab per 300 mm depth of slab for a laying speed up-to 1.5 m per minute or pro-rata for higher speeds. The machine shall be of sufficient mass to provide adequate reaction during spreading and paving operations on the traction units to maintain forward movements during the placing of concrete in all situations.
- 8.8.4 If the edges of the slip formed slab slump to the extent that the surface of the top edge of the slab does not comply with the requirements, then special measures approved by the Engineer-in-Charge shall be taken to support the edges to the required levels and work shall be stopped until such time as the contractor can demonstrate his ability to slip form the edges to the required levels. The slumped edge shall have to be corrected by adding fresh concrete after roughening the surface.
- 8.8.5 Upon the instructions of the Engineer-in-Charge, contractor shall scrape the concrete surface when in plastic state with a 3.0 m long tube float fixed with a long and stable handle before texturing. Tube float shall be of an alloy steel tube of 50-60 mm diameter with a long and stable handle. The length of the tube float shall preferably be longer than half the length of slab i.e., half the distance between two transverse contractions joints. This operation shall be done to minimize surface irregularity caused due to varied causes like frequent stoppage of work, surface deformation due to plastic flow etc. The tube float shall be placed at the center of the slab parallel to longitudinal joint and pulled slowly and uniformly towards the edges. After the use of the float tube, it shall be frequently cleaned before further use. The slurry removed shall be discarded. This activity shall be advanced laterally by providing an overlap of half the length of two float. The removal of the cement slurry from the surface shall be sufficient enough such that the texture is formed on a firm surface and is more durable. This operation however, shall be carried out after removing bleeding water.

8.8.6 In the case of construction by slip form paver, areas inaccessible to paving equipment shall be constructed by manual/hand guided method. Areas in which manual/hand guided methods of construction become indispensable shall be got approved by the Engineer-in-Charge in writing in advance. Work shall be carried out by skilled personnel as per methods approved by the Engineer-in-Charge. For construction by hand guided method in the limited area, no cost adjustment will be made.

8.9 Construction by Fixed Form Paver: The fixed form paving train shall consist of separate powered machines which spread compact and finish the concrete in a continuous operation. The paving train moves on the rails fixed on both sides of the pavement and compacting/finishing is simultaneously carried with the equipment fitted with paving train which moves on the rails.

8.9.1 The concrete shall be discharged without segregation into a hopper of the spreader which is equipped with means for controlling its rate of deposition on to the sub- base. The spreader shall be operated to strike off concrete upto a level requiring a small amount of cutting down by the distributor of the spreader.

The distributor of spreader shall strike off the concrete to the surcharge adequate to ensure that the vibratory compactor thoroughly compacts the layer. If necessary poker vibrator shall be used adjacent to the side forms and edges of the previously constructed slab.

8.9.2 The vibratory compactor shall be set to strike off the surface slightly high so that it is cut down to the required level by the oscillating beam. The machine shall be capable of being rapidly adjusted for changes in average and differential surcharge necessitated by changes in slab thickness or cross fall. The final finisher shall be capable to finish the surface to the required level and smoothness as specified, care being taken to avoid bringing up of excessive mortar to the surface by over working.

8.9.3 In the case of construction by fixed form paver, areas inaccessible to paving equipment shall be constructed by manual/hand guided method. Areas in which manual/hand guided methods of construction become indispensable shall be got approved by the Engineer-in-Charge in writing in advance. Work shall be carried out by skilled personnel as per methods approved by the Engineer-in-Charge. For construction by hand guided method in the limited area, no cost adjustment will be made.

8.10 SURFACE TEXTURE

8.10.1 Surface of the pavement shall be finished for the newly constructed concrete pavements such that texturing equipment shall not tear or unduly roughen the concrete surface during the operation. The texture shall be uniform in appearance and approximately 2.0mm in depth. Brush shall be applied when the water sheen has practically disappeared and the surface of concrete shall be brush-textured in a direction at right angles to the longitudinal axis of the carriageway to get satisfactory texture.

8.10.2 The texture depth shall be determined by the Sand Patch Test as described below. This test shall be performed at least once for each day's paving and wherever the Engineer-In-Charge consider it necessary at times after construction as under:

Five individual measurement of the texture depth shall be taken at least 2m apart anywhere along a diagonal line across a lane completed between points 50m apart along the pavement. No measurement shall be taken within 300mm of the longitudinal edges of a concrete slab constructed in one pass.

8.10.3 Measurement of Texture Depth – Sand Patch Method

The following apparatus shall be used:

- i) A cylindrical container of 25 ml internal capacity.
- ii) A flat wooden disc 64mm diameter with a hard rubber disc, 1.5mm thick, stuck to one face, the reverse face being provided with a handle.
- iii) Dry natural sand with a rounded particle shape passing a 300micron IS sieve and retained on a 150 micron IS sieve.

Method: The surface to be measured shall be dried, any extraneous mortar and loose material removed and the surface swept clean using a wire brush both at right angles and parallel to the carriageway. The cylindrical container shall be filled with the sand, tapping the base 3 times to the surface to ensure compaction, and striking off the sand level with the top of cylinder. The sand shall be poured into a heap on the surface to be treated. The sand shall be spread over to surface, working the disc with its face kept flat in a circular motion so that the sand is spread into a circular patch with the surface depressions filled with sand to the level of peaks. The diameter of the patch shall be measured to the nearest 5mm. The texture depth of concrete surface shall be calculated from $31000/(D \times D)$ mm where D is the diameter of patch in mm.

8.10.4 Texture depth shall not be less than a minimum required when measurement is taken as given in table nor greater than a maximum average of 1.25 mm.

TABLE: TEXTURE DEPTH

S No.	Time Test	Number of measurements	Required Texture Depth (mm)	
			Specified value	Tolerance
1.	Between 24 Hrs. and 7 days after the construction of the slab or until the slab is first used by vehicles.	An average of 5 Measurements	1.00	+0.25
2.	Not later than 6 weeks before the pavement is opened to traffic.	An average of 5 Measurements	1.00	+0.25

8.10.5 After the application of the brushed texture, the surface of the slab shall have a

Uniform appearance.

- 8.10.6 Where the texture depth requirements are found to be deficient, the Contractor shall make good the texture across the full lane width over length directed by the Engineer-in-Charge, by texturing the hardened concrete surface in an approved manner.

9.0 CONSTRUCTION BY MANUAL/HAND GUIDED METHOD:

The pavement shall be constructed using side forms. The acceptance criteria regarding level, thickness, surface regularity, texture, finish strength of concrete and all other quality control measures shall be the same as in the case of machine laid down.

9.1 Placing of Concrete:

- 9.1.1 Concrete shall be deposited between the forms. Where a certain amount of redistribution is necessary, it shall be done with shovels and not with rakes. The concrete shall be compacted with the needle vibrator and vibrating screeds. Use of vibrator near side forms is essential to eliminate honey combing. To effect adequate compaction, the concrete shall be placed with appropriate surcharge over the final slab thickness. The amount of surcharge will depend upon the mode of placement of concrete and shall be determined by trial. In general, the required surcharge is about 20% of the required slab thickness.

- 9.1.2 The concrete is to be deposited and spread to such a depth that when compacted and finished, the slab thickness indicated will be obtained at all points and the surface will not at any point be below the level specified for the finished surface.

9.2 Compaction of Concrete

- 9.2.1 Compaction shall be carried out by electrically operated needle and screed vibrators as stipulated hereafter. Needle vibrators should be used all over the area for obtaining initial compaction of concrete. These should be of diameter not less than 4.5 cm and if the vibrators are pneumatic, the pressure must not be below 4 kg/sq.cm. If electrically operated, they should have a minimum frequency of 3500 impulses per minute. Minimum number of petrol driven vibrators as specified by the Engineer-in-Charge with minimum frequency of 3500 impulses per minute shall be provided at each work head as a standby arrangement. The screed and internal vibrator shall conform to I.S.:2505 and I.S.: 2506 respectively.

- 9.2.2 There should be at least three needle vibrators working in one bay. A vibrating screed consisting of a steel or timber section weighing not less than 15 kg per meter with a tamping edge of not less than 7 cm width and having a vibrator mounted thereon shall follow needle vibrators to obtain full compaction. The face of the wooden tamping edge of the screed shall be lined with M.S. plate rigidly fixed by means of counter sunk screws. Where screed vibrators are used for compaction, a standby unit shall always be maintained ready for use, should the other one go out of order. Where electrically driven vibrators are employed,

a stand by pneumatic unit shall be kept ready for use in case of power failure. At the discretion of the Engineer-in-Charge, for compaction at edges and joints, vibrators may be supplemented by hand tamping and rodding for securing satisfactory results. Under no circumstances, honey combing of concrete at joints or elsewhere shall be permitted.

- 9.2.3 When using screed vibrator for compaction, it should not be dragged over the concrete. During the initial passes, it shall be lifted to the adjacent forward position in the steps. Subsequently, it shall be slowly slid over the surface with its axis slightly tilted away from the direction of sliding and the operation repeated until a close, dense surface is obtained.
- 9.2.4 Work men shall not be allowed to walk on freshly laid concrete. All operations shall be carried out from suitable wooden bridges spanning the lane- width.
- 9.2.5 **IMPORTANT PRECAUTION:** The vibration process shall be restricted just up-to the stage of appearance of water/ cement slurry on the surface. After reaching this point vibration should be discontinued. It should be ensured that no over-vibration is resorted, as it leads to formation of thin cement slurry layer over the top surface which tends to peel off with passage of time by movement of traffic.

9.3 Finishing of Concrete

- 9.3.1 Immediately after compacting of concrete and the construction of joints but before the concrete has hardened and while the concrete is still in a plastic state, the pavement surface shall be inspected for irregularities with a profile checking template and minor irregularities and score marks shall be eliminated by removing surplus material or by adding and working in freshly mixed concrete if necessary by means of long handled floats and scraping straight edges followed by further compaction and finishing. The long handled floats may be used to smoothen and fill in open textured area in the pavement surface, but the final finishing is to be done with scraping straight edges.
- 9.3.2 The scraping straight edges are to be 3 meters long with flexible handles long enough to reach the other side of the slab when operated from one side of the pavement. They are to be placed parallel to the forms at the side of the pavements and worked backwards and forwards uniformly across the width of the slab. After this operation has been completed and the surface has been brought to the required finish, the straight edge is to be moved forward but not more than half its length and the process repeated.
- 9.3.3 The straight edge testing and refloating is to continue until the entire surface:
- a) Is free from observable departure from the straight edge.
 - b) Conforms to the required levels and cross-section.
 - c) Conforms to the specified surface finish when the concrete has hardened.
- 9.3.4 The foregoing work is to be carried out while the concrete is still plastic and workable and in such time sequence so as to ensure the removal of water and laitance from the surface.

9.4 BELTING

Just before the concrete becomes non-plastic, the surface shall be belted with two ply canvas belt not less than 20 cm wide and at least 1 meter longer than the width of the slab. Hand belts shall have suitable handles to permit controlled uniform manipulation. The belt shall be operated with short strokes transverse to the center line of pavement and with a rapid advance parallel to the concrete line.

9.5 BROOMING

9.5.1 After belting and as soon as surplus water, if any, has risen to the surface, the pavement shall be given a broom finish with an approved steel or fiber broom not less than 45 cm wide. The broom shall be pulled gently over the surface of the pavement from edge to edge. Adjacent strokes shall be slightly overlapped. Brooming shall be perpendicular to the centre line of the pavement and so executed that the corrugations formed will be uniform in character and width and not more than 2.0 mm deep.

9.5.2 Brooming shall be completed before the concrete reaches such a stage that the surface is likely to be torn or unduly roughened by the operation. The broomed surface shall be free from porous or rough spots, irregularities, depressions and small pockets such as may be caused by accidental disturbing of particle of coarse aggregates embodied near the surface. The rate of the contractor for the item of quality controlled concrete pavement includes the provision for belting and brooming operations and nothing extra shall be paid on this account.

9.6 EDGING

After belting/ brooming has been completed but before the initial setting of concrete, the edges of the slab shall be carefully finished with an edging tool of 6 mm radius, and the pavement edges shall be left smooth and true to line.

9.7 HONEY COMBING

As soon as the side forms are removed, any minor honey combed areas shall be filled with mortar composed of one part of cement and two parts of fine aggregate. Major honey combed areas or segregated concrete or other defective work or areas damaged by removal of the forms or concrete damaged by rain or due to any other reason whatsoever shall be considered as defective work and shall be removed and replaced by the contractor at his own expense. The total area of honey combed surface not exceeding 2.5 sq.cm. each, shall not exceed 4% of the area of the slab side. Engineer in charge's decision as to whether the concrete is defective or not shall be final and binding.

10.0 SURFACE ACCURACY

10.1 After the concrete has sufficiently hardened after about 12 hours and not later than 24 hours, the surface shall be tested again for high spots. All high spots shall be marked and those exceeding 3 mm shall be ground down immediately as directed by the Engineer-in-Charge after obtaining his written permission.

Care shall be taken to see that the grinding does not in any way damage the concrete surface.

10.2 The final surface finish is to be such that when tested with a profilograph/roughness indicator/or a 3 meter long straight edge or an equivalent mechanical unevenness indicator placed anywhere within the same or adjoining slab in any direction on the surface, there shall be no variation greater than 3mm.

10.3 If the surface irregularities exceeding 3 mm still remains despite grinding if permitted, as per para 10.1 the concrete shall be removed to its full depth and replaced. The area of concrete to be removed shall be complete slab between the nearest joints. Where the defective slab is less than 4.5 meter from the construction joint, the whole area upto the construction joint shall be removed to the full depth. The concrete so removed shall not be reused in the work. Fresh concrete shall be laid in the manner already described in these specifications and shall again be subjected to test for surface accuracy and other quality control measures. Nothing extra shall be paid for all these operations.

10.4 Every slab shall bear an impression not exceeding 3 mm in depth comprising the number allotted to the slab and the date on which it is laid. This impression shall be formed by the Contractor when the concrete is green so as to leave permanent mark on setting.

11.0 CURING OF CONCRETE

Initial curing shall be done by application of curing compound or by manual method as per clause 16.37.13.5 of CPWD specifications Vol-II, 2019. However nothing extra shall be paid for curing by application of curing compound.

11.1 Initial Curing by application of Curing Compound:

11.1.1 Immediately after the surface texturing, the surface and sides of the slab shall be cured by the application of approved resin-based aluminized reflective curing compound or white pigmented curing compound which hardens into an impervious film or membrane with the help of a mechanical sprayer.

11.1.2 Curing compounds shall contain sufficient flake aluminum in finely divided dispersion to produce a complete coverage of the sprayed surface with a metallic finish. The compound shall become stable and impervious to evaporation of water from the surface of the concrete within 60 minutes of application and shall be of approved type. The curing compounds shall have a water retention efficiency index not less than 90 percent in accordance with BS Specifications No.7542 or as per ASTM C-309-81 Type 2.

11.1.3 The curing compound shall not react chemically with the concrete and the film or membrane shall not crack, peel or disintegrate within three weeks after application. Immediately prior to use, the curing compound shall be thoroughly agitated in its containers. The rate of spread shall be in accordance with the manufacturer's instructions checked during the construction of the trial length and subsequently whenever required by the Engineer-in-Charge. The

mechanical sprayer shall incorporate an efficient mechanical device for continuous agitation and mixing of the compound during spraying. Arrangements should be made to spray the curing compound on the sides of the slab. The curing compound shall be sprayed in two applications to ensure uniform spread. In addition to spraying of the curing compound, the fresh concrete surface shall be protected for at least 3 hours by covering the finished concrete pavements with tents supported on mobile truss during adverse weather conditions as directed by the Engineer-in-Charge.

11.2 FINAL CURING

Final curing shall be done either by spreading of wet hessian and moisturing it regularly or by ponding method as given below. However, nothing extra shall be paid for curing by spreading wet hessian method. All joints shall be filled in with temporary filler like sand etc. in order to prevent the edges of joints from being damaged and entry of clay materials into the joints during final curing.

11.2.1 Final curing by spreading of wet hessian method

After two or three hours after application of curing compound, the pavement shall be covered including sides by moist hessian (minimum of two layers) and the same shall then be kept damp for a minimum period of 14 days after which time the hessian may be removed. During the curing period, the hessian shall be kept continuously moist.

All damaged/torn hessian shall be removed and replaced by new hessian on a regular basis.

11.2.2 Final curing by ponding method

After two to three hours after application of curing compound or upon removal of the burlap as the case may be, the slab shall be thoroughly wetted and cured by ponding as follows:

Exposed edges of the slab shall be banked with a substantial berm of earth. Upon the slab shall then be laid a system of transverse and longitudinal height of clay about 50 mm high immediately covered with a blanket of sandy soil free from stones to prevent the drying up and cracking of clay. The rest of slab within these boundaries shall then be covered with sufficient sandy soil so as to produce blanket of earth not less than 40mm deep after wetting. The earth covering shall be thoroughly wetted while it is being placed on the surface and against the sides of the slab and kept thoroughly saturated with water for 21 days and thoroughly wetted down during the morning of the 22nd day and shall thereafter remain in place until the concrete has attained the required strength and permission is given by the Engineer-in-Charge. Thereafter the covering shall be removed and the pavement cleaned and swept. If the earth covering becomes displaced during the curing period, it shall be replaced to the original depth and restarted.

- 11.2.3** The contractor shall be liable at his cost to replace any concrete damaged as a result of incomplete curing or cracked on a line other than that of a joint as per procedure in IRC:SP-83.
- 11.2.4** The Contractor shall employ his own security personnel to prevent workmen, cattle straying etc., on the pavement concrete.
- 11.2.5** Concrete shall not be subjected to any load or weight of any plant until at least 28 days after laying, except for cutting the joints as directed by the Engineer-in-Charge.
- 12.0** CONTRACTION/DUMMY JOINTS
- 12.1** The spacing of transverse and longitudinal joints shall be 4.5 to 5 meter or as shown in the drawing. It shall be 10 mm wide and shall extend vertically from the surface of the slab to a depth equal to one-third depth of slab. The joint shall be formed by cutting with a joint cutting machine. The initial cut or slot of not less than 3mm wide is to be formed by sawing the concrete with a joint cutting machine of approved design as soon as the concrete hardens. Normally in summer when ambient temperature is more than 30°C, initial cutting may be carried after 4-8 hrs. of laying and in winter when ambient temperature is less than 30°C, initial cut may be done at 8-12 hrs. of laying. Top 25mm of this joint groove shall be subsequent widened to 10mm, after 14-16 days of casting concrete pavements. The details of Contraction/dummy joint shall be as given in Appendix – 'A-2'.
- 12.2** Before cutting the dummy joints, all necessary precautions shall be taken to ensure that the joint alignment is marked straight and true as per the drawings. The joint cutting machine will be handled only by an experienced person thoroughly familiar with this type of work. The joint should be cut along this alignment only. Any error in the joint cutting alignment shall be rectified by the Contractor at his own expense as directed by the Engineer-in-Charge, preferably using epoxy concrete as approved.
- 12.3** The groove shall be inserted with 12mm dia closed-cell Polyethylene foam back-up rod, 13mm below from the surface of the concrete and filling with Poly sulphide Sealant conforming to grade B.S.: 5212-1990 or IS:11433-1995. Prior to filling with Poly sulphide, the joints shall be cleaned by compressed air up-to full depth and primed properly with appropriate Polysulphide primer up to back-up rod and masking tape shall be applied along the edges of joint to prevent spillage of sealant on top surface to give neat finish to sealant. The masking tape shall be removed after the sealant has been applied and tooled.
- 12.4** All joints shall be sealed as soon as practicable after 28 days of placing of slabs. Joints shall be sealed flush with the adjacent pavement surface. The pavement shall be opened to traffic only after joint sealing over the entire pavement has been completed. To prevent tackiness or pick up under traffic, the exposed surfaces of the sealing compound shall be dusted with hydrated lime, if directed by Engineer-in- Charge, for which nothing extra shall be paid to the Contractor.

12.5 Each lot sealant shall be supported with manufacturers test certificate. However, one sample per 1000 kg. of sealant received at site or part thereof shall be collected by the Engineer-in-Charge or his authorized representative and sent for testing to any Government/ AAI approved Laboratory.

The contractor shall note that as testing charges of sealant seem to be high, they shall confirm the testing charges and quote their rates accordingly. Nothing extra over and above the quoted rates is payable on this account and no plea on what so ever ground will be entertained later on.

12.6 In case of sudden rain or storm, the work can be concluded at the dummy joints but these will then be formed as construction joints.

12.7 Before sealing of joints, it may be ensured that the transverse joints on each side of the longitudinal joint shall be in line with each other and of the same type and width. Any concrete or other foreign matter must be removed from the groove before sealing.

13.0 CONSTRUCTION JOINTS

13.1 Construction joints shall be provided as shown in the drawing and also at places whenever day's operations start and stops or where concreting is stopped due to unforeseen circumstances. The joints shall be straight and vertical through the full depth of the slab.

13.2 At all construction joints, bulk head shall be used to retain the concrete and care shall be taken in striking off and finishing the surface to the top face of the bulkhead. When work is resumed, the surface of concrete laid subsequently, shall conform to the grade and cross section of previously laid pavement. Where semi-mechanized method of construction is used, the concrete along the face of all joints shall be compacted with an internal vibrator inserted in the concrete and worked along the joint to ensure a concrete free from honeycombing. In case of mechanized construction, working and vibration/RPM of all the fixed vibrators shall be checked. There shall be two additional needle vibrators to compact the concrete near bulk head.

13.3 The Sealing of joints shall be done in the same manner as for contraction joints, by cutting a groove of 10mm wide and 25mm deep as shown in Appendix 'A-2'.

14.0 EXPANSION JOINTS

14.1 Expansion joints are essential where cement concrete pavement is designed to abut with structures like bridges, culverts, etc. and at junction of building and pavement. Expansion joint shall also be provided at the intersection of runway, taxiway and Apron. The expansion joint shall be straight, extend through the full depth of the slab and shall be of the shape and dimensions shown on the drawing. The slab edges adjacent to the joint shall be formed truly vertical.

14.2 Where semi-mechanized method of construction is used, the concrete along the face of all joints shall be compacted with an internal vibrator inserted in the concrete and worked along the joint to ensure a concrete free from honey combing. In case of mechanized construction, working and vibration/RPM of all the fixed vibrators shall be checked. There shall be two additional needle vibrators to compact the concrete near bulk head.

14.3 Synthetic expansion joint filler board as per specification shall be used to fill the gap between adjacent slabs at expansion joint. The joint groove shall be filled with Polysulphide conforming to grade B.S.: 5212-1990 or IS: 11433-1995. Prior to filling with Polysulphide, the joints shall be cleaned by compressed air up to full depth and primed properly with appropriate Polysulphide primer up to back-up rod and masking tape shall be applied along the edges of joint to prevent spillage of sealant on top surface to give neat finish to sealant. The masking tape shall be removed after the sealant has been applied and tooled. The details of expansion joint shall be as given in Appendix - 'A-2'.

15.0 APPLICATION OF POLYSULPHIDE JOINT SEALING COMPOUND

15.1 Materials

15.1.1 Sealant: It shall be cold Polysulphide sealant of approved make conforming to BS: 5212-1990 or IS: 11433-1995.

15.1.2 Back-up Rod/Backer Rod: Type of material shall be Expanded closed cell Polyethylene foam and shall conform to ASTM C-5249-95 or ASTM D 3575.

15.1.3 Primer: It shall be applied on the concrete faces of the joints. It shall be single component primer suitable for use with Polysulphide joint sealant, as approved by the Engineer-in-Charge.

15.1.4 Joint Filler Board: The joint filler shall be Synthetic joint filler board of approved make. It shall be 25mm thick within a tolerance of +1.5mm and of a firm compressible material and complying with the requirements of IS:1838 (Part 3):2011 with a compressibility more than 25%. It shall be provided to the full width between the side forms. If two pieces are joined to make up full width, the joint shall be taped such that no slurry escapes to the joint. The physical requirement of filler shall be as per the table given below:

S. No	Characteristics	Requirement	Method of test, Ref. to IS
1	Resistance to handling	Filler strips shall not be deformed or broken by twisting, bending or other types of ordinary handling when exposed to atmospheric condition (see note)	-
2	Recovery	90% min.	10566

3	Compression	a) Load required to compress the specimen to 50% of its original thickness before the test shall be (i) 7 kgf /cm ² , min. (ii) 53 kgf/cm ² , max.	-do-
4	Extrusion	Amount of extrusion of the free edge shall not exceed 6mm	-do-
5	Water Absorption	1%, max.	-do-
6	Density	100 + 10 kg/m ³ , min.	-do-
7	Weathering	a) shall show no sign of disintegration, delamination or separation after the test b) shall satisfy the requirement of recovery,	-do-

Note: Pieces of joint filler that have been damaged shall be rejected.

In order to ensure that sides of the PQC pavement in the portion of above expansion joint filler board do not get dirty and this space does not accumulate pieces of aggregates and other foreign materials, precaution is required to be taken as indicated in note 1 given below.

Note:

1. Expansion joint filler board should be provided up-to the top of finished pavement surface. At the time of filling the joint with sealant material and back-up rod/baker rod, the required depth of joint filler board from the top up-to the bottom of back-up rod/baker rod should be cut & removed. For easy removal of top filler board and to avoid damage to the filler board, a pre-cut in the expansion joint filler board shall be provided at a suitable depth so that back-up rod/baker rod & sealant could be filled after removal of the top cut portion of the filler board. Nothing extra shall be paid for the filler board from top up-to the bottom of back-up rod/baker rod.
2. As the period for the test will be around three weeks, advance planning is required to avoid any delay on this account.

15.2 PROCEDURE

- 15.2.1 Preparation of Surface: All the joint surfaces to which the sealant is to be applied should be clean, dry and free from any loose material, dirt, dust, scale, protective lacquer, grease.
- 15.2.2 Expansion joint filler material must be checked to ensure that it is tightly packed and no gaps or voids exist at the base of the joint slot.
- 15.2.3 Sealant should be prepared as per manufacturer's specifications.

- 15.2.4 Before sealant is applied, primer shall be applied to secure better adhesion between sealant and the concrete surface. The surface shall be allowed to dry for at least 30 minutes but no longer than 3 hours before the sealant is applied.
- 15.2.5 To prevent accidental spillage of sealant on the top surface and to give a neat finish, masking tape should be applied along the edge of joint before the sealant material is filled.
- 15.2.6 Immediately after filling the joints, the sealant should be tooled either with a stainless steel or wooden spatula of the size of the joint to give a smooth surface. While tooling, the spatula should be wetted with a wetting agent like soap water. Masking tape shall be removed immediately after the sealant has been tooled. By tooling, the sealant is compressed with the result that air bubbles if any, are broken up and the sealant becomes free of voids and there is a proper adhesion of the sealant to the sides of the joints.
- 15.3** Sealant of approved make shall be filled only after complete curing of concrete i.e., after 28 days. Sealant shall be applied slightly to a lower level than the slab with a tolerance of $\pm 0.5\text{mm}$ as shown in Appendix -'A-2'
- 15.4** Sealant of approved make shall be filled up for a depth as specified in item. The rate of application of sealant may be calculated on the basis of the following formula:
- Number of 1 Kilogram tins required = $0.0015 \times L \times W \times D$
 Where L = Length of joint in meters
 W = Width of joint in mm.
 D = Depth of joint in mm.
- 15.5** Manufacturer's certificate shall be produced for establishing that the sealant is not more than six months old or the shelf-life of the sealant. For storage, preparation of sealant, health and safety precautions etc., manufacturer's specifications shall be applicable.
- 15.6** A typical sketch showing details of filling of joints is enclosed as Appendix -'A- 2'.

16.0 QUALITY CONTROL

16.1 The following quality control tests shall be carried out at frequencies specified against each, as per the table given below:

S.No	Test	Test Method	Frequency	Acceptance Criteria
1	Cement			

S.No	Test	Test Method	Frequency	Acceptance Criteria
	Physical and chemical tests	IS:4031, IS:4032	Once for each source of supply and every 200 tonnes or part thereof. Cement remaining in stores for more than one and half month from the date of manufacture must be retested before use and to be rejected, if it fails to conform to any of the requirements of the specifications. Each brand of cement brought to site shall be tested as per this frequency. Besides, the Contractor also will submit daily test report on cement released by the manufacturer.	As per relevant code as per Para 1.1
II	Coarse aggregate			
	a) Flakiness Index	IS:2386 (Part-I)	Before approval of the quarry and at every subsequent change in the source of supply and one test for every 2000 cum of aggregate	Not more than 25%
	b) Impact value Or Los Angeles abrasion value	IS:2386 (Part- IV)	- do-	Not more than 30%
	c) Water Absorption	IS:2386 (Part III)	-do-	Not more than 3%.
	d) Deleterious materials	IS:2386 (Part II)	Before approval of the quarry and at every subsequent change in the source of supply.	As per table -2 of IS: 383
	e) Moisture content	IS:2386 (Part III)	Regularly as required subject to a minimum of one test per day	This data shall be used for correcting the water demand of the mix on a daily basis
	f)Grading	IS: 2386 (Part- I)	One test per day on each size of aggregates	As per Table - 7 of IS: 383
	g) Soundness (i) Loss with Sodium	IS 2386 (Part V)	Before approval of the quarry and at every subsequent change in the source of supply	Max. 12% Max. 18%

S.No	Test	Test Method	Frequency	Acceptance Criteria
	Sulphate for 5 cycles (ii) Loss with Magnesium Sulphate with 5 cycles			
	(h) Presence of ferrous sulphide and iron oxide	As per clause 1.3.1	Before approval of the quarry and at every subsequent change in the source of supply.	No presence of ferrous sulphide and iron oxide
III	Fine Aggregates			
	a) Silt Content	CPWD Specification 2019 Vol. I, Page 76, Appendix -C	One test per 200 cum and part thereof	Not more than 8%
	b) Grading	IS : 2386 (Part-III)	-do-	Fineness modulus between 2.5 to 3.9
	c) Water Absorption	IS : 2386 (Part-III)	-do-	Not more than 3%
	d) Deleterious materials	IS: 2386 (Part-II)	Before approval of the quarry and at every subsequent change in the source of supply.	As per table 1 of IS 383
	e)Moisture content	IS:2386 (Part-III)	Regularly as required subject to a minimum of two test per day.	This data shall be used for correcting the water demand of the mix on a daily basis.
IV	Combined Grading of Aggregates			
	a) Grading	IS: 2386 (Part-I)	1 test per 150 cum a nd part thereof	As per Para 12.5.6
V	Concrete			
	a) Slump test of concrete	IS : 1199	At least once in 50 batches at each mixer or more frequently if directed by the EIC.	As per Para 12.5.10
	b) Flexural strength	IS : 516	One test consisting of six beam specimens and 6 cubes. Three specimens shall be tested after 7 days and another three shall be tested after 28 days for	As per Para 13.4

S.No	Test	Test Method	Frequency	Acceptance Criteria
			every 200 Cum of Concrete & part thereof	
	c) Surface accuracy	As prescribed	Regularly	As per Para 12.5.33
VI	Polyethylene sheet	IS:2508 Density Tensile strength at break Melt flow Index	One test per lot	As per IS:2508

16.2 Equipment as per list at Appendix-‘B-1’ shall be provided by the Contractor in the field testing laboratory. Nothing extra shall be paid to him on this account. Records as required shall be maintained at site.

All test details in support of mix design shall be maintained as part of records of the contract and shall be signed both by the contractor and the Engineer-in-Charge or their authorized representatives. The contractor shall provide all labour, materials and equipment required for all tests to be carried out, at his own cost.

16.3 The Engineer-in-Charge reserves the right to test any concrete laid regarding quality, soundness, compaction, thickness strength and finish of the concrete at any time before the expiry of the “Defects Liability period” notwithstanding that necessary tests had been carried out and found satisfactory at the time of execution.

16.4 QUALITY CONTROL AND STANDARD OF ACCEPTANCE OF STRENGTH OF CONCRETE

16.4.1 Samples of concrete shall be collected at the point of discharge on the pavement and beams cast as controlled specimens and tested in accordance with IS: 516 and IS: 1199. The concrete will be said to comply with the specified flexural strength, when the following conditions are met with.

- a) The mean strength determined from any group of four consecutive samples (each sample containing 3 beam specimen i.e. 4x3 =12 beam specimens) at 28 days should exceed the specified characteristic flexural strength by at least 0.3 MPa i.e., 4.4 MPa.
- b) The strength of any specimen is not less than the specified characteristic flexural strength minus 0.1 MPa i.e., 4.0 MPa.

16.4.2 Should the concrete fail to pass the specification for strength as described above, the contractor may, all at his own expense elect to cut cores (diameter of the core not less than 150mm) as per the direction of Engineer-in-Charge where the requirements are not met with. The points from where cores are to be taken and the number of cores required shall be at the discretion of the

Engineer-in-Charge and shall be representative of the whole of concrete concerned. In no case, however, shall fewer than 3 cores be tested.

- 16.4.3 Cores shall be prepared and tested as described in IS 516. Concrete in the member represented by a core test shall be considered acceptable if the average of the results of crushing strength tests of the cores shall not be less than 0.8x0.85 times the corresponding Characteristic compressive strength of cubes and no individual core has a strength less than 0.8x0.75 times the corresponding Characteristic compressive strength of cubes where height to diameter ratio of the core is 2. Where height to diameter ratio of the core is not 2 necessary corrections shall be made in calculating crushing strength of cubes as per clause 12.21.1 of IRC:15- 2017.

Sample calculation for required core strength is placed below for core cut with height to diameter ratio of core is 2:

$$\text{Flexural strength } f_{cr} = K\sqrt{f_{ck}}$$

$$f_{cr} = 4.1 \text{ MPa}$$

$$4.1 = K\sqrt{f_{ck}}$$

K - value as derived in clause

$$4.5 f_{ck} = 16.81/K^2$$

Average core strength required = 0.8x0.85x fck MPa
Individual core strength required = 0.8x0.75x fck MPa

- 16.4.4 If however, the tests on cores also confirm that the concrete is not satisfying the strength requirements, then the concrete corresponding to the area from which the cores were cut should be replaced, i.e., over an area extending between two transverse joints where the defects could be isolated or over larger area as decided by the Engineer-in-Charge.
- 16.4.5 All defective and sub-standard work which includes concrete slab of sub-standard strength as established in above para shall be liable to rejection and shall be replaced by the contractor at his expense. Acceptance criteria for cracked concrete slabs shall be as follows (ref. clause 12.33 of IRC-15-2017):
- i) Fine crazy cracks (Plastic shrinkage cracks) with cumulative length of 3000mm in a slab can be accepted after repair as per IRC: SP-83. Beyond cumulative length of 3000 mm, it shall be rejected.
 - ii) Slabs with cracks running transversely or longitudinally penetrating to full depth and length of the slab are to be rejected.
 - iii) Slabs with any type of cracks which are penetrating to more than half the depth shall be rejected. (ref. clause 12.33 of IRC-15-2017).
 - iv) When due to operational or any other reason, such replacement does not become possible (decision of Engineer-in-charge in this respect being final and binding on the contractor), the cost of removal and replacement of such rejected work shall be recovered from the contractor whether such rejected work is subsequently replaced by the Deptt. or not.

17.0 WEATHER LIMITATIONS

17.1 Concreting during rains: To prevent damage to freshly laid concrete during monsoon, or sudden rains, the Contractor shall provide an adequate supply of tarpaulins or other water-proof material. Any concrete damaged by rain shall be removed and replaced by the Contractor at his own cost as directed by the Engineer-in-Charge. If need be, necessary provisions shall be made to support the water- proof material clear of the newly-laid concrete surface to prevent smoothening or any damage due to the contact with tarpaulin. The whole unit should be weighted down appropriately to prevent from blown off by winds. The rate quoted shall include all these.

17.2 Concreting in hot weather: No concreting shall be done when the concrete temperature is above 30°C. Besides, in adverse conditions like high temperature, low relative humidity, excessive wind velocity, imminence of rains etc. if so desired by the Engineer-in-charge, tents on mobile trusses may be provided over the freshly laid concrete for a minimum period of 3 hours as directed by the Engineer-in-charge. The temperature of the concrete mix on reaching the paving site shall not be more than 30°C. To bring down the temperature, if necessary, chilled water or ice flakes should be made use of. No extra payment shall be made for this arrangement.

17.3 Concreting in cold weather: No concreting shall be done when the concrete temperature is below 5°C.

18.0 MEASUREMENTS

18.1 For the purpose of ascertaining the quantity of concrete in the pavement length, breadth and thickness shall be measured as detailed below:

a) Length

- i) Between the end of a pavement to the center line of the construction / expansion joints.
- ii) Between the center lines of consecutive construction/expansion joints.

b) Width

- i) Between the edge of a pavement and the center line of the construction joints.
- ii) Between the center lines of construction joints and expansion joints.
- iii) Between the center lines of construction joints and expansion joints.
- iv) Between the center lines of consecutive construction joints.

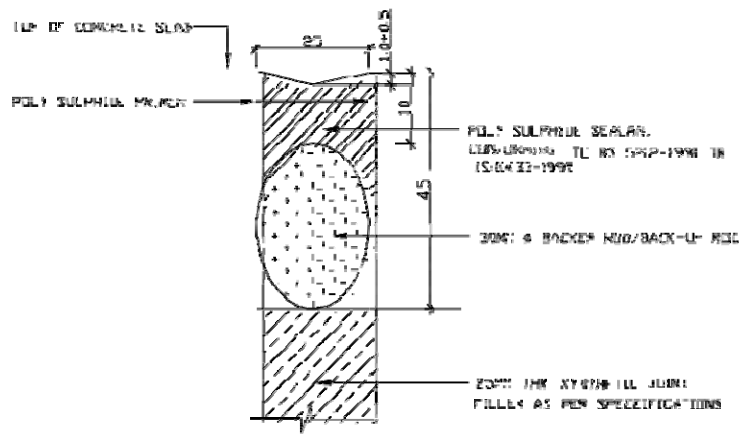
c) Thickness

Levels shall be taken before and after construction, at the grid of points 5 metre centre-to-centre longitudinally in straight reaches for each panel and 2.5 metre centre-to-centre at curves. The levels shall also be taken transversely, at 0.75 metre from either edge of the and the remaining locations shall be at equi-distance but not more than 2 metre in the balance portion of panel. The average thickness of the pavement course in any panel shall be the arithmetic mean of the difference of levels before and after construction at all the grid points falling in that panel, provided that the thickness of finished work shall be limited to those shown on the drawings or approved by the Engineer-In- Charge in writing. As supplement to level measurements, the Engineer shall have the option to take cores/ make holes to check the depth of construction. The holes made and the portions cut fortaking cores shall be made good by the Contractor by laying fresh mix/material including compacting as required at his-own cost immediately after the measurements are recorded.

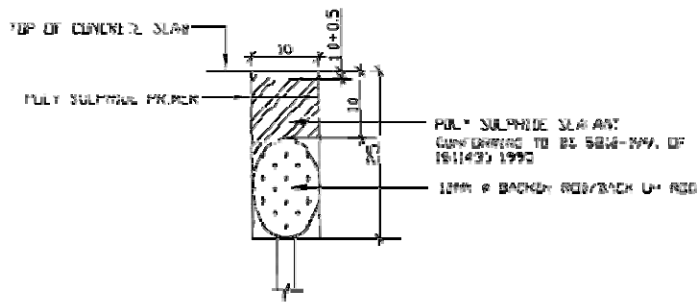
The finished concrete courses to be paid on volume basis by multiplying length , breadth and thickness as measured above and its volume shall be calculated in Cubic metres correct to two places of decimal. Measurements of concrete slabs shall be recorded in aforesaid manner jointly by the Engineer-in-Charge or his authorized subordinate and the Contractor or his authorized agent.

19.0 RATE

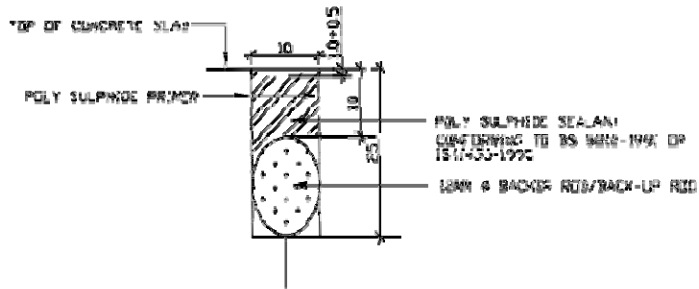
19.1 The rate of the item for concrete in pavement shall include the cost of all materials and labour including charges for machinery tools & plants, making profile including taking levels including all cartages and lift required in all the operations described above complete in all respects for a successful completion of the job. The rate also includes cost of mix design from outside laboratory, trial mix, all costs of setting up of laboratory at site and carrying out the quality control measures/tests enumerated above by the Contractor at his own cost in the presence of Engineer-in- Charge or his authorized representative, and submission of test results on completion of tests to the Engineer-in-Charge thereof.



EXPANSION JOINT



CONTRACTION /DUMMY JOINT



CONSTRUCTION JOINT

TECHNICAL SPECIFICATION FOR ELECTRICAL WORK

CI TRANSFORMER HOUSING BOX

The CI transformer housing box is used for housing the isolating transformer and installation of elevated type light fittings used in operational area for taxiway, apron edge light etc over its top.

MATERIAL	: CI MOULD of foundry grade pig iron
THICKNESS	: 15 mm thick (average) on top surface and 10 mm thick (average) all round. Top surface should be smoothly machined to receive base plate of light fixture.
HEIGHT	: 450 mm
OUTSIDE DIAMETER	: 330 mm
OPENING ON TOP	: 220 mm diameter
HOLES FOR FIXING LIGHT	
BASE PLATE	: 6 Nos. M-10 tapped holes at hole centre of 260mm
HOLES REQUIRED	: 1 or 2 Nos. of holes to receive 50 mm diameter 'B' class GI pipe as specified in BOQ & drawing and as per Engineer-in-charge 1 or 2 Nos. holes to receive 15 mm diameter 'B' class GI pipe 1 hole for 15 mm diameter B' class GI drain pipe
OVERALL WEIGHT	: 41.7 kg (minimum)
EARTH TERMINALS	: Two numbers holes tapped to receive M10X 30mm SS bolts. Along with each CI box 2 numbers M10X30mm SS bolts with 4 nos SS nuts and SS washers shall also be supplied.

Note:

All other requirements as per the Drawing enclosed. The tenderer shall prepare the drawing for transformer housing boxes and shall get it approved from Engineer-in-charge before manufacturing.

Acceptance & Routine Test

The following tests shall be carried out as acceptance test

- Visual inspection (Dimensional check & finish)
- Weight of the CI box.
- Checking with base plate of fitting (to be obtained by contractor from AAI) about matching of hole centres and threading to suit M-10 bolt.
- Checking for earth terminals arrangement

Marking & Painting

Each CI box shall be suitably and clearly marked with manufacturer's name or trade mark or both. Each CI box shall be painted with 3 coats of anti-corrosive black paint on inside as well as outside.

Samples for acceptance test

Samples should be taken from each lot of CI boxes for ascertaining the conformity of the lot to the required of specifications. The number of samples to be selected and permissible number of defects shall be as given below:

All the CI boxes of the same type manufactured using same raw material under similar conditions of production shall be grouped together to constitute a lot. The number of CI boxes to be selected from each lot shall be in accordance with Col 1 and 2 of the table give below:

Lot Size (1)	Sample Size (2)	Acceptance No. (3)
up to 50	8	0
51 to 100	13	0
101 to 150	20	1
151 to 300	32	1
301 to 500	50	2
501 to 1000	80	3

These samples shall be selected from the lot at random.

Number of tests and criteria for conformity

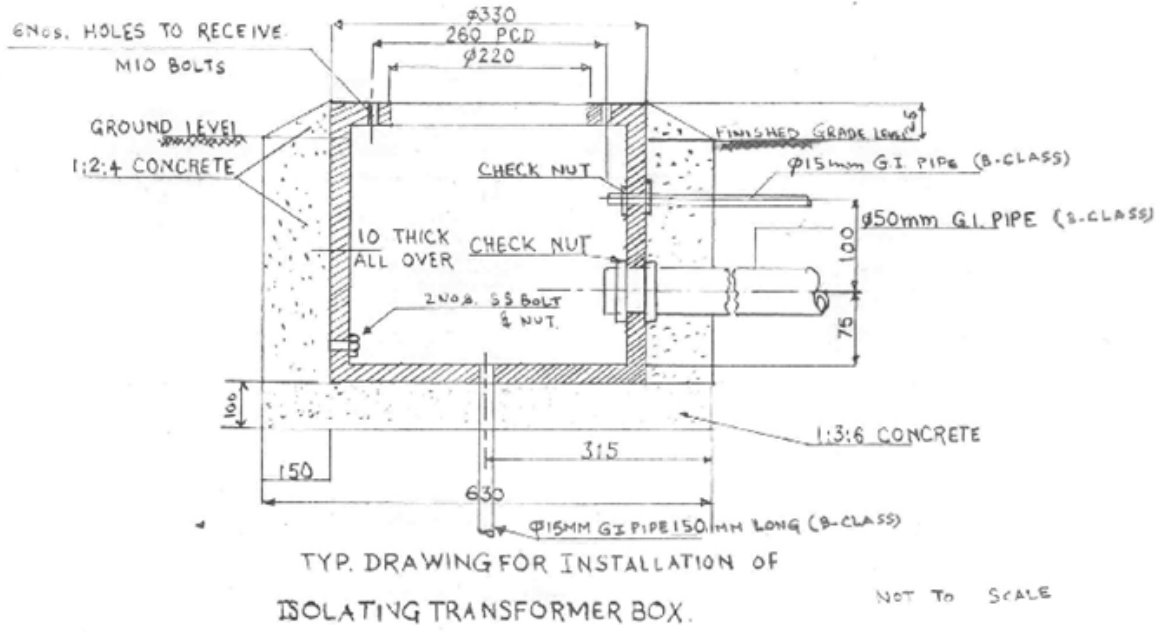
The CI boxes selected at random according to Col.1 and 2 of table above shall be subjected to acceptance tests as specified above. A CI box failing to satisfy any of the acceptance tests shall be termed as defective. The lot shall be considered as conforming to the requirements, if the number of defectives found in the samples is less than or equal to corresponding acceptance number, otherwise the lot shall be rejected.

Installation of Transformer Housing Box

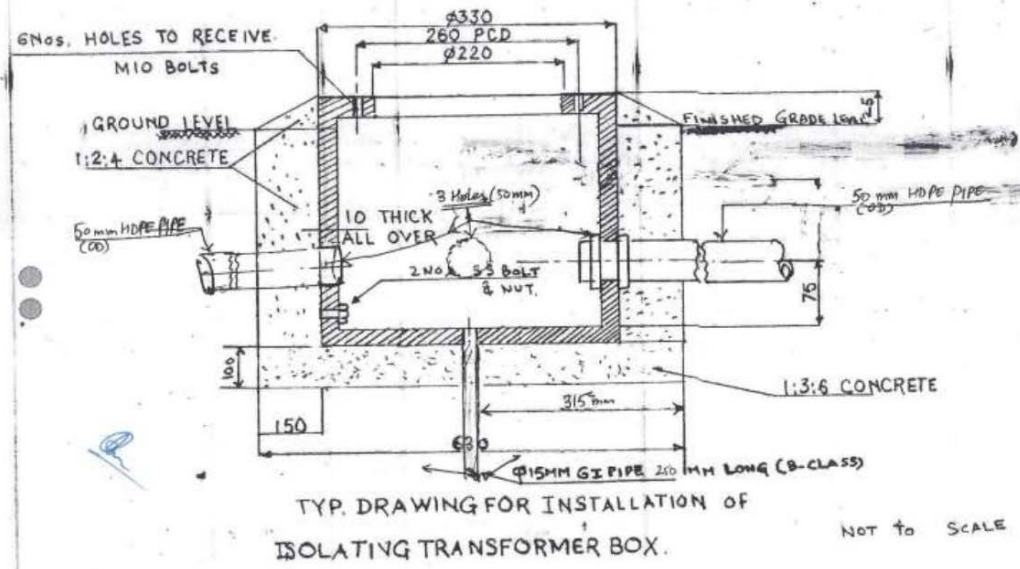
The transformer housing box shall be installed as shown in the figure. Level the transformer housing box so that the top of the housing box is approximately 25 mm above the finished grade at that location. The top of the concrete is sloped away from the top portion of the transformer housing box so that the sloped outer edges of the concrete are at surface grade.

When the Transformer Housing Box is to be installed, a circular pit is made at the location where the fitting is to be installed. The pit shall be of diameter 300 mm more than the diameter of the CI box and of depth 75 mm more than the height of CI box. The pit shall be reamed so as to get a well consolidated sub base. Cement concrete of 1:3:6 mix (1 cement, 3 sand, 6 coarse aggregate of 20 mm nominal size) shall be poured and consolidated to a depth of 100 mm.

The box is placed centrally over the prepared concrete base keeping in view the final orientation of the fitting. Cable entry pipe and earth wire entry pipe shall be terminated on the box. Cement concrete of 1:2:4 (1 cement, 2 sand, 4 coarse aggregate of 20 mm nominal size) shall be filled around CI box and consolidated. The top of the concrete is sloped away from the flange portion of the CI box smoothly. The concrete is cured by retention of water suitably on the finished concrete. The chase cut for the pipe shall be made good to restore the surface to the original finish, as specified in the BOQ when the CI boxes are installed on the existing shoulder. It may be noted that the top of the fitting when installed over the box shall not project more than 350 mm above the shoulder level.



(for reference, get the drawing approved from Engineer-in-charge)



(for reference, get the drawing approved from Engineer-in-charge)

LIST OF PREFERRED MAKE (CIVIL)

The preferred makes is listed below:

- i. Listing of any make in the list do not qualify the make for use in the work. Make(s) meeting the contract technical requirement / specifications shall only be permitted to use in work.
- ii. Items which are not mentioned in above list but required at site, shall be supplied with prior approval of AAI.
- iii. 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 submission of documentary evidence of non - availability of the preferred brand **with prior approval of TS authority**. The necessary cost adjustments on account of above change shall be made for the material.

LIST OF PREFERRED MAKES		
S.NO.	DESCRIPTION/ ITEM	PREFERRED MAKES
1.	Cement	ACC Ltd Ultra Tech Shree Cement Ambuja Jaypee Century JK Laxmi (JK Laxmi Cement Ltd) JK Cement Lafarge Dalmia Cement Birla A1 (Orient Cement Ltd.) Star Cement PENNA Max Cement Ramco Cement Chettinad Cement Wonder (wonder cement Limited) Emami Cement JSW Cement Zuari Cement Prism Cement Or any other reputed cement manufacturers having a production capacity not less than One Million tonnes per annum as approved by ED (Engg.)
2.	Admixtures / Water Proofing compound / Liquid membrane /Self-adhesive membrane	Pidilite Industries Ltd FOSROC Chemicals India Pvt. Ltd. CICO Technologies Ltd. Sika India Pvt. Ltd BASF India Ltd MC Bauchemie (MC-Bauchemie India Pvt. Ltd.) Ardex Endura (India) Pvt. Ltd.

		<p>STP Ltd. Choksey chemicals Pvt Ltd MYK Laticrete (MYK Laticrete Pvt. Ltd.) Mapei (Mapei Construction Products Pvt. Ltd) Chryso India Pvt. Ltd. Maruti Bitumen Pvt. Ltd. Penetron India Pvt. Ltd. Supreme Bituchem India Pvt Ltd Asian Paints Ltd IWL India Ltd. TP Buildtech Pvt. Ltd. MYK Arment Mapei Technicol India Pvt Ltd Saint Gobin India Pvt Ltd Ferrous Crete (India) Pvt Ltd Fair Mate Chemicals Pvt Ltd Berger Paints India Pvt Ltd</p>
3.	Bipolar Corrosion Inhibitor Admixture	<p>STP Ltd. Sika India Pvt. Ltd BASF India Ltd Chryso India Pvt. Ltd. Supreme Bituchem India Pvt. Ltd.</p>
4.	TMT Reinforcement Steel	<p>SAIL RINL (VIZAG Steel) TATA TISCON (TATA Steel Limited)_ JSW Steel Limited JSPL Shyam Steel Industries Ltd. ESL Steel Ltd. Shyam Metalics & Energy Ltd.</p>
5.	Reinforcement coupler	<p>Dextra G-Tech Hi-Tech Engineering solutions Sanfeild (India) Ltd.</p>
6.	Structural Steel - MS Tubular Section (Circular, Square, Rectangular) for Columns, Truss, MS Pipes, Flats Angles, Beams, Channels, Strips, etc.	<p>SAIL RINL Tata Structure (TATA Steel Limited} JSW Steel Ltd. JSPL APL Apollo Tubes Ltd Shyam Metalics & Energy Ltd.</p>
7.	Fasteners	<p>Hilti (Hilti India) Pvt.Ltd.) Fischer BOSCH Fasteners India Mungo Rawl Plug</p>
8.	TILE JOINT FILLER, TILE/ AAC BLOCK/ STONE FIXING ADHESIVE/ SOLID EPOXY GROUT	<p>Ardex Endura (India) Pvt. Ltd. Ferrouscrete India Pvt.Ltd MYK Laticrete (MYK Laticrete Pvt. Ltd.) Pidilite Industries Ltd.</p>

		<p>FOSROC Chemicals (India) Pvt. Ltd. BASF India Ltd. Fairmate (Fair Mate Chemicals Pvt.Ltd) STP Ltd. Home Pride Adhesive Pvt. Ltd. Saint-Gobain India Pvt. Ltd. Berqer Paints India Ltd. Somany Ceramics Ltd.</p>
9.	<p>Paints for steel structure (Epoxy paint) / PU Paint/Water Proof Cement Paint/ Primer/ Distemper / Texture finish Paint /Synthetic Enamel Paint /Fire Retardant Paint</p>	<p>Akzo Nobel India Pvt. Ltd. Jenson & Nicholson Oikos India Pvt. Ltd Asian Paints Ltd. Berger Paints India Ltd. Nerolac Acro Paints Ltd. Snowcem India Ltd. Shalimar (Shalimar Paints Ltd.) Jotun Grauer & Weil (India) Limited STP Ltd. Hempel Paints India Pvt. Ltd.</p>
10.	<p>Expansion Joint/filler board/ Joint covers</p>	<p>Vexcolt International Ltd (UK) Construction Specialites (USA) The Supreme Industries Ltd STP Ltd. Dupont Sanfeild Hercules Z-Tech Deevin M.M.Systems Kantaflex-Balco (Kantaflex (India) Pvt. Ltd.) Mapei (Mapei Construction Products Pvt. Ltd.) Migua (cameo Inc Migua Expansion Joint) Insuboard Soprema Supreme Bituchem India Pvt. Ltd.</p>
11.	<p>RUNWAY MARKING PAINT (WATER BASED)</p>	<p>Nerolac Berger Paints (Berger Paints India. Ltd.) Asian Paints Ltd. ITS Coating Pvt. Ltd. Supreme Bituchem India Pvt. Ltd. STP Ltd.</p>
12.	<p>GI Pipe Fittings</p>	<p>Unik Zoloto Malleables Leader Valves Ltd. Surya R-Brand</p>

		KS SS
13.	CI MANHOLE COVERS & CI GRATING	NECO (Jayaswal Neco Industries Ltd.) BIC RIF., Electro Steel casting Ltd. SKF Kesoram Kapilansh Dhatu Udyoa(P) Ltd. Kartar HEPCO (Binay Udyog Pvt Ltd.)
14.	SILICONE SEALANT	Wacker Dow corning G.E. Plastics Pidilite Industries Ltd. FOSROC Chemicals (India l Pvt. Ltd. BASF India Ltd. STP Ltd. Rawl Plug Choksev Chemicals Pvt. Ltd. Supreme Bituchem India Pvt. Ltd. Maruti Bitumen Pvt. Ltd.
15.	POLY SULPHIDE / POLYURETHANE SEALANT FOR JOINTS	FOSROC Chemicals (India} Pvt. Ltd. Choksey Chemicals Pvt. Ltd. Pidilite Industries Ltd. Sika India Pvt. Ltd. Dow corning MYK Laticrete (MYK Laticrete Pvt. Ltd.) Tuffseal Wacker G. E. STP Ltd. BASF India Ltd. Maruti Bitumen Pvt. Ltd. Chryso India Pvt. Ltd. Supreme Bltuchem India Pvt. Ltd. Bostik India Pvt Ltd MYK Arment Pvt. Ltd. McCoy Soudal Sealants Adhesives & Foams Pvt. Ltd.
16.	CURING COMPOUND (RESIN BASED & WAX BASED)	FOSROC Chemicals (india) Pvt. Ltd. Sika India Pvt. Ltd. BASF India Ltd. Supreme Bituchem India Pvt. Ltd. CICO Technologies Ltd. STP Ltd. Berger Paints India Ltd.
17.	GEOTEXTILE PRODUCTS	Techfab India Industries Ltd. Strata Geosystems (India) Pvt.Ltd. Suntech Geotextile Pvt. Ltd.

18.	SOIL REINFORCEMENT GEOSYNTHETICS	Maccaferri Environmental Solutions Pvt. Ltd. Strata Geosystems (India) Pvt.Ltd. Tech Fab India Industries Ltd.
19.	UPVC/CPVC/SWR PVC PIPES & FITTINGS	The Supreme Industries Ltd. Finolex Industries Ltd Savoir Faire Manufacturing Co. Pvt. Ltd. AKG Extrusions Pvt Ltd. Surya Roshni Astral Prince Ori-plast Ashirvad Vectus Prayag (Prayag Polymers Pvt. Ltd.) Balco Texmo Pipes and Products Ltd.

PREFERED MAKES (ELECTRICAL WORKS)

ITEMS	PREFERRED MAKES (W.E.F. 22.09.2023)	CATEGORY FOR TEST CERTIFICATION / INSPECTION
G I / M S PIPE	APL APOLLO / PRAKASH SURYA / ITL-INDUS / JCO PIPE / JINDAL STAR / TATA / HSL / SAIL / BEC / HIRA PIPES (RR ISPAT)	CATEGORY-2

CATEGORY REQUIREMENT OF TEST CERTIFICATE/ INSPECTION

CATEGORY-1:

- a) Type test certificate for similar item done. If not one of the items offered is to be type tested.
- b) OEMs routine test certificate.
- c) Acceptance test to be conducted in the presence of AAI representative at OEMs factory.

CATEGORY-2:

- a) Type test for similar item done. If not, one of the items offered is to be type tested.
- b) OEMs routine test certificate.
- c) Visual and functional check by AAI official at AAI airport site.

CATEGORY-3:

- a) OEM/ Dealer/ Contractor routine test certificate.
- b) Visual and functional check by AAI official at AAI airport site.

CATEGORY-4:

- a) Visual and functional check by AAI official at AAI airport site.

Pavement section of Apron & Taxi

PQC = 430 mm (Flexural strength = 41 Kg/cm ² at 28 days)
DRLC = 150 mm
WMM = 150 mm
GSBC = 150 mm

K- value of subgrade – 44 MN/m³

Pavement section of shoulder for Apron & Taxi

PQC = 300 mm (Flexural Strength = 41 Kg/cm ² at 28 days)
DRLC = 125 mm
WMM = 150 mm
GSBC = 150 mm

Subgrade K-value = 44 MN/m³

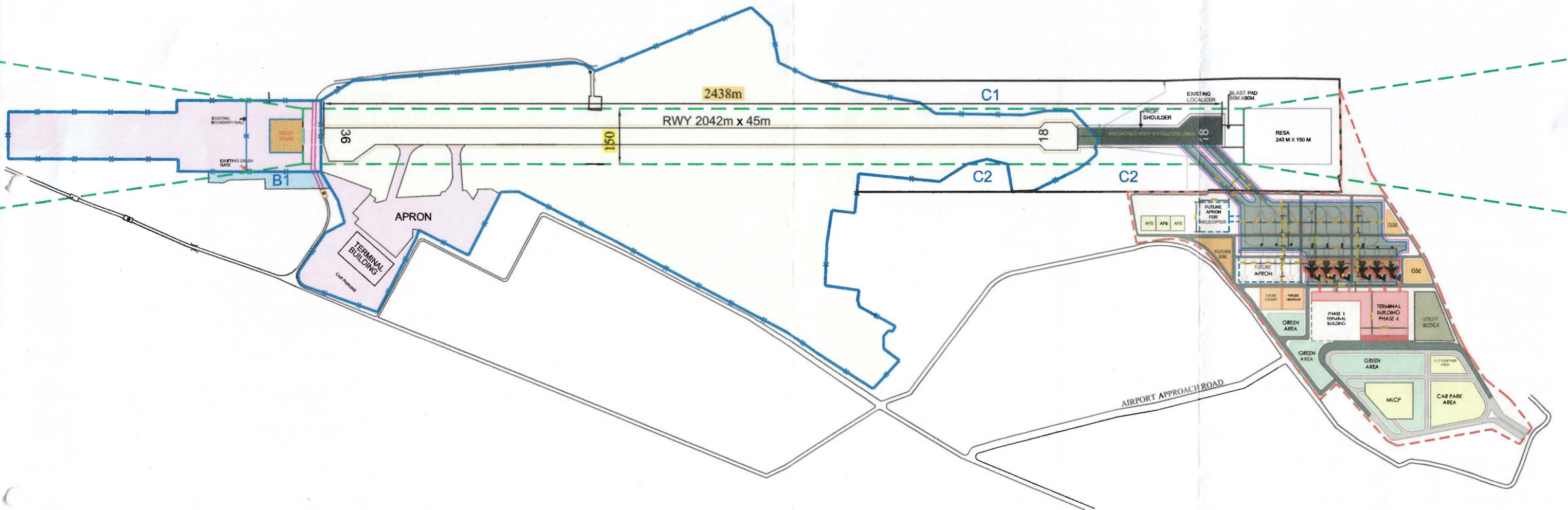
Pavement section for GSE

PQC = 275 mm (Flexural strength = 4.1 MPa at 28 days)
DRLC = 100 mm
WMM = 150 mm

K-Value of Subgrade – 44 MN/m³

Pavement section for Perimeter Road

PQC = 225 mm (Flexural strength = 4.1 MPa at 28 days)
DRLC = 100 mm
WMM = 150 mm



C/o Apron at Jammu Airport

Page- 323



AIRPORTS AUTHORITY OF INDIA
DEPARTMENT OF PLANNING,
AAI, RAJIV GANDHI BHAWAN,
SAFDARJUNG AIRPORT, N DELHI-110003

PROPOSED MASTER PLAN AT JAMMU AIRPORT

MASTER PLAN

BHARAT Asstt. Mgr. Plg. GM (Arch)	AMIT KUMAR DGM (Arch)	SCALE
VARUN KR. LAU GM (Arch)	SANGEETA MAHAY ED (PLG)	DATE: NOV.2021



SCHEDULE OF QUANTITIES

Name of Work:- Construction of New Civil Enclave at Jammu Airport (Phase -I).

SH: Construction of Apron and associated works for parking of 13 Nos. AB-321 type of Aircraft.

S.N.	Description	Unit	Qty
	CIVIL WORKS		
1	Clearing and grubbing road land including uprooting rank vegetation, grass, bushes, shrubs, saplings and trees girth up to 300 mm, removal of stumps of trees cut earlier and disposal of unserviceable materials and stacking of serviceable material to be used or auctioned, up to a lead of 1000 metres including removal and disposal of top organic soil not exceeding 150 mm in thickness. by mechanical means	sqm	119300
2	Excavation for earth work in all kinds of soil with hydraulic excavator of 0.9cum bucket capacity including cutting & loading in tippers, trimming bottom and side slopes in accordance with requirement of line, grades and cross section and transporting to the embankment location with all lifts and lead within Airport Premises as directed by Engineer-in-Charge. All kinds of soil.	Cum	16000
3	Construction of embankment at OMC (98% of Modified Dry Density)by providing excavated earth carriage of 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.	cum	16000
4	Construction of embankment at OMC (98% of Modified Dry Density)by providing good earth conforming to specifications, carriage of 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.	Cum	145000
5	Preparation 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 mechanical transport to work site, for all leads & lifts, spreading in uniform layers of specified thickness with mechanical means including neatly levelling and dressing on prepared surface and compacting with vibratory power roller to achieve the desired density, complete as per direction of Engineer-in-Charge. a) with material conforming to grading I of Table I of Particular Specifications.	Cum	15900
6	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 mechanical mix plant, carriage of mixed material by mechanical transport to site, for all leads & lifts, laying in uniform layers with mechanical paver finisher 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.	Cum	17900
7	Providing and laying dry lean cement concrete Sub- base over a prepared sub-grade with coarse and fine aggregate conforming to IS: 383, the size of coarse aggregate not exceeding 26.5 mm, aggregate cement ratio not to exceed 15:1, aggregate gradation after blending to be as per specification, cement content not to be less than 150 kg/cum, optimum moisture content to be determined during trial length construction, concrete strength not to be less than 10 Mpa at 7 days, mixed in a batching plant as per mix design, transported to site, laid with a paver with electronic sensor, compacting with 8-10 tonnes vibratory roller, finishing and curing etc complete as per specification and direction of Engineer-in-charge.	Cum	16900

S.N.	Description	Unit	Qty
8	<p>Providing and laying Pavement Quality Concrete (PQC) produced in a batching and mixing plant having a Characteristic flexural strength i.e. flexural strength of 4.1 MPa at 28 days using Ordinary Portland cement of 43/53 grade or Portland Pozzolana Cement or Portland Slag cement conforming as per relevant IS codes, to be mixed at site, with 0.5% Super plasticizer by mass of cementitious material, fine aggregate, graded stone aggregates of 40 mm nominal size in appropriate proportion as per specification and job mix formula, laid in panels as per drawings/design as approved by the Engineer-In-Charge using Slip Form Paver or Fixed form paver including anti friction layer, joint filler board, making necessary provision for expansion, dummy and construction joint including filling with Polysulphide sealant of approved make, curing and making profile, complete as per direction of Engineer-in-Charge and specifications. The item for execution shall include all operations making pavement for intended use but not limited to following:</p> <p>(i) Polyethylene sheet (White in color) of thickness 400 micron conforming to IS: 2508 with 6mm thick fine sand layer.</p> <p>(ii) Providing and laying in position for expansion joint, 25mm thick pre-cut Synthetic joint filler board of approved make conforming to IS:1838(part 3)-2011, 45 mm from top (to be removed at the time of filling of Polysulphide sealant).</p> <p>(iii) Mechanically cutting dummy joints 3mm wide x 1/3rd thickness of slab which is subsequently widened to 10mm for the top 25mm depth and construction joints 10mm wide x 25mm deep as per specification.</p> <p>(iv) Providing and laying in position Polysulphide sealant of approved make conforming to BS-5212-1990 or IS: 11433-1995 in expansion/ construction / dummy joints including rounding off edges, applying 2 coats of approved primer compatible with the brand of Polysulphide and preparing the surface and applying masking tape along the edge of joint to prevent accidental spillage of sealant on top surface and to give neat finish to the sealant and removing the masking tape after application of sealant etc. as per the details below:</p>	Cum	47200
9	<p>Painting runway/taxi track/apron marking with adequate nos of coats to give uniform finish with road marking paint of superior make as approved by the Engineer-in-charge, i/c cleaning the surface of all dirt, scales, oil, grease and other foreign material etc. and lining out complete. New work (Two or more coats)</p>	Sqm	9500
10	<p>Filling available excavated earth (excluding rock) in trenches, plinth, sides of foundations etc. in layers not exceeding 20cm in depth, consolidating each deposited layer by ramming and watering, lead up to 50 m and lift upto 1.5 m.</p>	Cum	4500
11	<p>Providing and laying in position ready mixed or site batched design mix cement concrete for reinforced cement concrete work; using coarse aggregate and fine aggregate derived from natural sources, Portland Pozzolana / Ordinary Portland /Portland Slag cement, admixtures in recommended proportions as per IS: 9103 to accelerate / retard setting of concrete, to improve durability and workability without impairing strength; including pumping of concrete to site of laying, curing, carriage for all leads; but excluding the cost of centering, shuttering, finishing and reinforcement as per direction of the engineer-in-charge; for the following grades of concrete.</p> <p>All works upto plinth level Concrete of M25 grade with minimum cement content of 330 kg /cum</p>	Cum	1300
12	<p>Providing and laying in position ready mixed or site batched design mix cement concrete for reinforced cement concrete work; using coarse aggregate and fine aggregate derived from natural sources, Portland Pozzolana / Ordinary Portland /Portland Slag cement, admixtures in recommended proportions as per IS: 9103 to accelerate / retard setting of concrete, to improve durability and workability without impairing strength; including pumping of concrete to site of laying, curing, carriage for all leads; but excluding the cost of centering, shuttering, finishing and reinforcement as per direction of the engineer-in-charge; for the following grades of concrete.</p> <p>All works upto plinth level Concrete of M35 grade with minimum cement content of 370 kg /cum</p>	Cum	460

S.N.	Description	Unit	Qty
13	Add for using extra cement in the items of design mix over and above the specified cement content therein.	Qtl	600
14	Steel reinforcement for R.C.C. work including straightening, cutting, bending, placing in position and binding all complete upto plinth level. Thermo-Mechanically Treated bars.	Kg	139000
15	Providing and laying in position cement concrete of specified grade excluding the cost of centering and shuttering - All work up to plinth level : 1:4:8 (1 Cement : 4 coarse sand (zone-III) derived from natural sources : 8 graded stone aggregate 40 mm nominal size derived from natural sources)	Cum	310
16	Centering and shuttering including strutting, propping etc. and removal of form for :Foundations, footings, bases of columns, etc. for mass concrete.	Sqm	900
17	Centering and shuttering including strutting, propping etc. and removal of form for all heights :Walls (any thickness) including attached pilasters, butteresses,plinth and string courses etc.	Sqm	8300
18	Centering and shuttering including strutting, propping etc. and removal of form for :Suspended floors, roofs, landings, balconies and access platform.	Sqm	240
19	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.In gratings, frames, guard bar, ladder, railings, brackets, gates and similar works	Kg	1000
20	Painting with black anti-corrosive bitumastic paint of approved brand and manufacture to give an even shade : Two or more coats on new work	Sqm	100
21	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 19.36.1 450 mm dia RCC pipes.	Metre	200
22	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.	Cum	300
23	Demolishing cement concrete manually/ by mechanical means including disposal of material within 50 metres lead as per direction of Engineer - in - charge. Nominal concrete 1:4:8 or leaner mix (i/c equivalent design mix)	Cum	200
24	Demolishing brick work manually/ by mechanical means including stacking of serviceable material and disposal of unserviceable material within 50 metres lead as per direction of Engineer-in-charge.	Cum	500
25	1:2:4 (1 cement : 2 coarse sand (zone-III) derived from natural sources : 4 graded stone aggregate 20 mm nominal size derived from natural sources)	Cum	40
26	Supplying and filling in plinth with sand under floors, including watering, ramming, consolidating and dressing complete.	cum	250

S.N.	Description	Unit	Qty
	Electrical Works		
27	Supply of Isolating Transformer CI Box Supply of C.I. Isolating Transformer housing box, water tight, round type, metal container of size 330mm dia and 450 mm height made of 10 mm thick cast iron moulding all round, except the top surface, which is 15 mm thick cast iron suitable to receive a light fitting base plate on the top and underground housing associated with transformer power cable and having a clear hole centre at the one side surface, centre 3" above bottom surface suitable to receive 1 no of 50mm. dia "B" class GI pipe & check nuts as required. The box should have two earth bolts of M 10 X 30 mm. welded inside near the cable entry hole on one side, 4" away from the hole centre and having a drain hole at the bottom suitably tapped to receive 15 mm. dia. "B" class GI pipe and having clear opening of 220 mm. at the top surface and 6 nos M10 tapped hole at the hole centre 260 mm. dia. to receive fitting base plate and bolts as required as per the drawing. a) Single hole	Each	88
28	Supply of Isolating Transformer CI Box Supply of C.I. Isolating Transformer housing box, water tight, round type, metal container of size 330mm dia and 450 mm height made of 10 mm thick cast iron moulding all round, except the top surface, which is 15 mm thick cast iron suitable to receive a light fitting base plate on the top and underground housing associated with transformer power cable and having a clear hole centre at the one side surface, centre 3" above bottom surface suitable to receive 1 no of 50mm. dia "B" class GI pipe & check nuts as required. The box should have two earth bolts of M 10 X 30 mm. welded inside near the cable entry hole on one side, 4" away from the hole centre and having a drain hole at the bottom suitably tapped to receive 15 mm. dia. "B" class GI pipe and having clear opening of 220 mm. at the top surface and 6 nos M10 tapped hole at the hole centre 260 mm. dia. to receive fitting base plate and bolts as required as per the drawing. b) Double hole	Each	37
29	Installation of transformer housing boxes with a base concrete of 1:3:6 of size 630 X 630 x 100 mm. thick, all round concrete of 1:2:4, 150 mm. thick, the top sloped with 1:2:4 cement concrete including providing and fixing 10" long 15 mm. dia. "B" class GI pipe with check nuts for drainage of water including excavation of side shoulder and refilling (wherever the transformer boxes are in a line the same has to be aligned in such a way that the centre fall in a straight line) etc, complete as required. (The box shall project above the shoulder to a maximum of 25 mm.)	Each	125
30	Supply and laying of 50 mm dia (class B) GI pipe in the trench including alignment of the GI pipe with transformer housing boxes including threading ,providing checknuts etc as required.	Mtr.	900
31	Providing, laying and fixing following dia RCC pipe NP2 class (light duty) in ground complete with RCC collars, jointing with cement mortar 1:2 (1 cement : 2 fine sand) including trenching (75 cm deep) refilling etc as required. a) 250 mm dia.	Mtr.	360